DOCUMENT RESUME

ED 041 136 08 VT 011 331

AUTHOR	Brandon, George L., Ed.
TITLE	Research Visibility, 1969-70. Reports on Selected Research Studies in Vocational, Technical, and Practical Arts Education.
INSTITUTION	American Vocational Association, Washington, D.C.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-7-0633
PUB DATE	Jun 70
GRANT	OEG-2-7-070633-3021
NOTE	151p.; Reprinted from the American Vocational Journal
AVAILABLE FROM	American Vocational Association, 1510 H Street, N.W., Washington, D.C. 20005 ($3.25)
EDRS PRICE	EDRS Price MF-$0.75 HC-$7.65
DESCRIPTORS	*Bibliographies, Curriculum, Disadvantaged Groups, Educational Planning, Educational Programs, *Educational Research, Evaluation, Guidance, Handicapped, Manpower Development, Manpower Needs, Occupational Information, Professional Personnel, *Research Reviews (Publications), Residential Schools, Systems Approach, *Vocational Education
IDENTIFIERS	*New Careers

ABSTRACT

Research reviews in this volume are a consolidation of Research Visibility articles published in the "American Vocational Journal" from September 1969 through May 1970. The reviews are arranged by sub-topic in these major sections: (1) Manpower Research, (2) Exemplary Programs and Residential Schools, (3) Comprehensive Planning, (4) Guidance and New Careers, (5) Vocational Education Curriculum, (6) Accreditation and Evaluation, (7) Report on Vocational Research, (8) Disadvantaged and the Handicapped, and (9) Development of Professional Personnel. Each topic includes editorial comments by the author and a bibliography of completed studies reported in this volume and related studies. Author and title indexes for the entire volume are provided. (SB)

ED041136

RESEARCH VISIBILITY

1969-70. Reports on selected research studies in vocational, technical and practical arts education. Reprinted from the **AMERICAN VOCATIONAL JOURNAL.**

VT011331

ED041136

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Published by the American Vocational Association / 1510 H Street. N.W., Washington, D. C. 20005 / June 1970 / Price, $3.25.

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INTRODUCTION

WITH THIS VOLUME we conclude the third year of vocational education research reporting in *Research Visibility*. Consolidated in it are reports published in the *American Vocational Journal* from September 1969 through May 1970. It is my hope that this series has helped bring into focus, for vocational education practitioner and researcher alike, the myriad of research constantly being sent forth by the educational community.

Credit for this volume and the two preceding ones is due many individuals and organizations. In particular, recognition must be given the U.S. Office of Education, Division of Comprehensive and Vocational Education Research, without whose financial support *RV* would have been impossible.

RV has been edited for the past two years by George L. Brandon, AVA professor in residence. Assisting him in preparation of copy has been Mrs. Marsha Golden, research assistant, of the AVA staff. The guidance and diligent efforts of the *Journal* editorial staff, Harry H. Cutler, managing editor, and Billie Bryce must not go unrecognized.

The Manpower Administration, U.S. Department of Labor, through Howard Rosen, director, and Mrs. Mary Bedell, has provided research reports and other helpful suggestions. Personnel of the U.S. Office of Education, Sidney C. High, Jr., Duane M. Nielsen, Lawrence Braaten, Jack Wilson, Otto P. Legg, and Mrs. Velma Brawner, have been helpful with their many suggestions and provision of resources for the series and its evaluation.

Present plans for the future of *RV* are uncertain; however, it is my hope and the hope of those who have been closely connected with this project that the *RV* of the future will be able to do even more to reach the vocational education practitioner in order to promote change in vocational programs and instructional practices. We aspire to accomplish this through a new process of research synthesis, interpretation, and application. Through this process it is envisioned that *Research Visibility* will fill the needs of vocational practitioners to a greater extent than before, thus preparing them to meet head-on vocational education's challenge of the 1970s.

Lowell A. Burkett

Lowell A. Burkett
Executive Director
American Vocational Association

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RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

MANPOWER RESEARCH

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PREFACE

A new lease on life

THIS ISSUE of *Research Visibility* begins the third year of reporting to the AV JOURNAL readership. The year ahead represents a new "lease on life" inasmuch as the research reporting series terminated in June 1969 with the expiration of the contract between the AVA and the U.S. Office of Education. The third year is made possible by a continuation grant of the Division of Comprehensive and Vocational Education Research of the Office of Education.

It may be the most critical year yet in the short *RV* history, from the standpoint both of improving what has been attempted in the past, and of determining sharper focus and utilization of *RV* for a long-range future. On both counts, reader suggestions and comments are solicited. Let us have yours!

Topically, the new lease has the following tentative format:

SEPTEMBER: *Manpower Research*
OCTOBER: *Exemplary Programs*
NOVEMBER: *Comprehensive Planning*
DECEMBER: *Vocational Guidance: New Careers*
JANUARY: *Curriculum*
FEBRUARY: *Evaluation; Accreditation*
MARCH: *Research*
APRIL: *The Disadvantaged; The Handicapped; Consumer Education*
MAY: *Educational Personnel Development*

RV's reporting this year, and perhaps beyond, should be greatly improved by the influence of its Advisory Committee. The membership includes Vernon E. Burgener, Illinois; Lowell A. Burkett, AVA; Lawrence Braaten (ex officio), USOE; John Coster, North Carolina; Sidney C. High (ex officio), USOE; Mary Klaurens, Minnesota; Aaron Miller, Ohio; Jerome Moss, Jr., Minnesota, and Duane M. Nielsen (ex officio), USOE. Early on the Committee's agenda are consideration of a readership survey during 1969-70 and improvement of *RV* dissemination and utilization.

RV Readership Study. The readership study which was conducted last spring produced responses from 1,622 readers (two mailings were made to the same 10,000 sample). While many more returns might have assisted in tempering the research reporting for the year ahead, the limited responses provide a few clues to the effectiveness of the visibility effort.

Parenthetically, it is a symptom of the lack of visibility and recognition which seems to characterize research on the national level and the consequent disenchantment of Congress with it. Obviously, the *RV* staff cannot hazard a conclusion from the limited returns other than that of an overwhelming opinion (on the part of the 1,622 respondents) to "keep *Research Visibility* as it is." We are indebted to the respondents for the following data.

1969 "RESEARCH VISIBILITY" SURVEY QUESTIONNAIRE

1. Respondents' positions and the population

Position	*Responses*	*%*
Instructors	602	38
Administrators, supervisors	308	19
Coordinators	156	9
Professors	168	10
Counselors	29	2
Other	175	11
Not given	51	3
Unusable returns	133	8
Total	1622	100

2. Frequency of reading *Research Visibility*

	No.	*%*
Regularly	703	47
Occasionally	517	35
Seldom	179	12
Never	83	6

3. Feature(s) of particular interest

	No.	*%*
Introduction	356	12
Specific report	832	27
Bibliography	405	13
Reports	663	22
Plain Talk	715	23
Nothing	77	2
Other	24	1

4. Utilization of information

	No.	*%*
Yes	859	62
No	525	38

5. Information utilized for what purpose(s)

	No.	*%*
General information	383	40
Classwork	259	27
Research	214	22
Counseling	21	2
Reports to Others	82	9

6. Documents or publications ordered from reports listed in *RV*

	No.	*%*
Yes	298	22
No	1042	78

See Bibliography for information on availability of complete studies

Youth Unemployment: An Exploratory Probe

Youth Unemployment: Frictions in the Threshold of the Work Career—An Exploratory Probe. Herbert G. Heneman, Jr., and René V. Dawis. University of Minnesota Industrial Relations Center, Minneapolis. December 1968.

"Lack of education" and similar replies have been traditional responses to research questions regarding reasons for unemployment of youths or threshold workers. With answers of this nature, solutions such as more training or retraining are offered. Lack of education, however, may be only a surface symptom of more basic causes of threshold unemployment. If this is the case, then solutions which aim at intensification of training are inappropriate. On this assumption, this research project was originated to search for some of the more basic causes.

The project, which ran from July 1964 to January 1969, used questionnaires administered to high school students in the Twin Cities area of Minnesota along with follow-up interviews of graduates and dropouts to collect data for study. Designed as an exploratory probe, the project attempted to devise methods of measuring attitudes, needs, expectations, and beliefs and perceptions regarding the world of work which threshold workers have. The relation of these attitudes to the beginning work experience was sought.

Findings provided by analyses of data collected during the study demonstrated some of the basic conceptions which high school students have about the world of work. For example, concepts of work attitudes tend to vary widely. Although they tended to agree on questions relating to the "work ethic" and a personal sense of values, they often disagreed on questions about business ethics, labor market conditions and even about the necessity of working. Uncertainty was revealed in opinions regarding labor unions and the labor market.

Variables such as age, sex, social class, work experience, and sibling position influenced the work attitudes of those questioned, though to no great extent. It was found, however, that it is possible to measure work attitudes of threshold workers by reliable and relatively independent scales. These measured work attitudes can help to fill in where demographic variables, such as age and sex, and biographical variables tend to leave off in investigating the variance in the work experience of threshold workers.

Many problems arose in obtaining an appropriate sample of data for purposes of the study. For example, follow-up was easier to accomplish on graduates than on dropouts, thus creating a biased sample. In addition, since some students chose not to answer all items on the questionnaire, more than 5 percent of the forms had to be discarded. Suggestions for future data gathering in this manner would include, therefore, a re-evaluation of the questionnaire and the procedures for administration of it.

Analysis of the data acquired during the project leads to the conclusion that meaningful measurement can be made of the attitudes of threshold workers, and that relation of this data to demographic factors can be formed into sensible patterns. Although there is a significant relationship between work attitudes and demographic factors, this relationship is of a very low order of magnitude. This fact means that the addition of work attitude information to studies of work experience of threshold workers is valuable.

It was interesting to note that the most significant difference between high school graduates and dropouts who were the subjects of follow-up interviews was that the dropouts had held more jobs prior to the one they were holding at the time of the interview than had the graduates. Other than this fact, there were few other differences in the work histories of the two groups. One significant fact, though, was the difference in unemployment rates between the two groups. An aspect in which a great degree of unity was found for the two groups was that of job satisfaction, or lack of it. Most of the youths interviewed stated that they were satisfied with their present jobs.

The significance of this report is that it has established that work attitudes are an important frictional factor in the work experiences of threshold workers. Although the shortcomings which were encountered in conducting the study have caused the exact figures arrived at to be unreliable, in the opinion of the researchers, a step forward has been made. Research is now needed which will gather more precisely detailed data on the exact extent to which employment experience is influenced by work attitudes, and an identification is needed of the "mechanism" by which this influence works.

It will then be the job of educators and society in general to attempt to cope with these frictions, to minimize unfavorable attitudes, and to capitalize on attitudes which are demonstrated to bring about a successful transition into the world of work for youths who are "on the threshold."

The Youth Labor Market

The Youth Labor Market. Edward Kalachek. The Institute of Labor and Industrial Relations, The University of Michigan and Wayne State University. January 1969.

The rising social problem of the unemployment of teenagers, particularly Negro teenagers, has evoked an interest in literature and research on the subject. A review and evaluation of existing material, and an attempt at identifying areas where additional research is called for, are the purposes of this paper. The demand for labor, labor force participation, unemployment, and the rise in unemployment among youths are discussed. The author pinpoints the

areas where future research would be of the most value.

Some of the questions asked by the study are: "How readily can teenage labor be substituted for adult labor?", "To what extent does this depend on the occupational and industrial composition of the demand for labor?", and "Do minimum wage laws or other restrictions on wage flexibility result in the existence of a hiring queue and in the concentration of many teenagers toward its rear?"

Answers to these questions vary as widely as do the different approaches of investigators which are referred to in the report. However, other investigators have found significant relationship between the aggregate level of labor demand and employment of teenagers, and although each study shows a different degree of responsiveness for employment of teenagers, all of them agree that teenagers are concentrated near the rear of the "hiring queue."

Teenager Rate Declines

In examining labor force participation by teenagers, it was found that such participation has declined throughout this century. Much of this decline can be attributed to increased school attendance. It is the remainder of the decline which must be "food for thought and research," as this part is accounted for by the teenager who either does not wish to work, cannot find a job, or has not even looked for a job because he does not feel he will be able to find one.

Most of the data which we now have regarding teenage unemployment is "moment of time data"—data which tells us information on age, sex, color, and educational attainment of the labor force at any one moment in time. What we need now, however, is research which will analyze more substantial information to answer questions concerning the efficiency of the labor market in transforming novices in the market into productive adult members of the labor market. For example, it would be helpful to know whether disappointment in finding a job in the initial job hunt is an undesirable or beneficial result of the labor market in that it may teach youths that "ideal" job goals may have to be altered for reality.

What is called for in this study is a series of longitudinal studies in which a sample of teenagers would be followed as they made their entrance into the world of work. In this way it would be possible to determine which experiences in the search for employment and in unemployment were beneficial and which were detrimental in educating the teenager in the facts of employment. In addition, a longitudinal study of the labor market experiences of high school dropouts as compared with high school graduates is called for.

Other areas requiring in-depth study are those of motivation and the job hunt, employment of nonwhites, the place of the teenager in the structure of employment, and the need for improvement in the organization of the youth labor market. Information in these fields can help in formation of future policies in regard to improving the lot of the youth labor market through vocational guidance and job placement activities, and through giving new direction to vocational education and on-the-job training.

Pilot Programs Recommended

In conclusion, the author suggests that "what is needed is a number of specially designed pilot programs . . ." which would be both ". . . efforts to cope with current teenage labor market problems and as environment probes designed to create the data necessary for a better analysis of the merit of the program and of its most fruitful nature and size." These programs, it is also noted, should include a fully integrated data-collecting system in order to afford the most valuable evaluation of the programs.

Topic Two: MANPOWER NEEDS

See Bibliography for information on availability of complete studies

Post-World War II Manpower Research

An Analysis of Post-World War II Manpower Research, Policy and Program Experience Applicable to Current Manpower Planning for Peacetime Conversion of Military Manpower to Civilian Occupations. John F. Wallerstedt. Atlantic Research Corp., Alexandria, Va. October 1968.

In order to analyze research, policy and program experience from after World War II, and to assess its applicability to planning for conversion of military personnel to civilian jobs following the Vietnam conflict, this study has examined literature and research made of the civilian employment taken by World War II veterans to determine whether the skills learned in the Armed Forces were utilized in postwar jobs. In addition, an assessment has been made of programs which were designed to help men change from military to civilian employment. Because of experiences regarding available literature encountered during the initial period of the study, the emphasis has been placed on examining studies dealing with transferability of skills encountered by sample populations of World War II veterans and on programs, other than regular U.S. Employment Service Veterans programs, which have been initiated for men returning from Vietnam.

Factors such as mobility of the labor force, vocational education and training, an assessment of the job market, the transferability of occupational skills and knowledges to civilian employment experience, and employment of the disabled were investigated for both enlisted and career veterans.

In the chapter on vocational education and training, special emphasis is given to the impact of the GI Bill on the education and training of veterans. Consideration is given to parallels between the military occupational structure and the civilian labor force. Finally, contrasts between vocational training used by the Armed Forces and training given

in civilian vocational programs are examined.

In studying the impact of the GI Bill, the investigators found that at the most, only 20 percent of post-World War II veterans who attended college under the GI Bill would not have attended college without this assistance. It is interesting to note, however, that approximately one-third (2½ million) of those using the GI Bill had enrolled in craft, trade or industrial courses. In addition, many others enrolled in farm and other specialized training courses. In fact, the overall effectiveness of the GI Bill program was greater on the men who pursued vocational programs than on those who used the benefits to attend college.

Veterans Evaluate Training

Of the veterans who had received college or other training under the GI Bill, those who had less than six months of training did not generally feel that they were using the training in their jobs. However, of those who had had 30 months or more of training, only a small percentage felt that they were not using the skills acquired. Occupations in which the Armed Forces were found to be the primary trainer as of 1963 were medical and dental technicians, engineering and physical science technicians, bakers, and airplane mechanics. It is suggested, however, that there may be opportunity for improving military training's value as a training ground for civilian occupations. This is a field recommended for further study.

Results of the study showed that the trade school, more than any other, can utilize military-acquired skills towards civilian labor force training. It is suggested, therefore, that trade schools be a target of those planning more effective transition from military to civilian occupations.

Council Recommendations

Suggestions made by the National Manpower Council in 1954 for the improved coordination of military and civilian manpower policies are noted. These include the examination by the Armed Forces of the content of their training programs in order to make them broader and consequently more valuable to the trainee upon separation from the service. It was also suggested that disadvantaged youth should be influenced to stay in the Armed Forces longer to acquire more of the skills which will enable them to progress in civilian life.

In conclusion, it was determined by the study that in administration of a GI Bill for Vietnam veterans, close coordination with other training programs such as MDTA and military programs for the disadvantaged recruit, should be emphasized. It is increasingly important, in light of manpower problems today, that the Armed Forces, the Federal Government, and private industry attempt to coordinate training programs for the end purpose of improving the general work force of the nation. In addition, the job training needs *before*, as well as during and after military service, should be viewed in planning efforts.

Areas in which further research is recommended include:

- Studies of non-careerist military personnel (the majority of available material is on career military retirees).
- Studies which reflect interests of all governmental agencies.
- Studies structured to permit follow-up over a long period of time.
- Studies which would determine the value of non-academic schools, such as commercial and trade schools, to the needs of former servicemen.
- Studies of means of using the highly condensed training methods of the military in private industry.
- Studies of using the secondary school systems to prepare youths with non-military knowledge (such as mathematics training) which will be useful to them in the military.

Comprehensive Health Manpower Planning

Comprehensive Health Manpower Planning: Demonstration of Research-Conference Procedures for Estimating Health Manpower Requirements and in Evaluating Educational and Training Programs for Selected Health Occupations in Non-Metropolitan Areas. Edward B. Jakubauskas. Iowa State University, Ames, Iowa. May 31, 1968.

The goal of this pilot project was the investigation of the feasibility of the development of a comprehensive health manpower program for Iowa through a system of procedures for assessment of long-range manpower requirements, available manpower, health occupation trends and training, and patterns by which health occupation manpower is used.

The project was conducted through use of mailed questionnaires, interviews, and through preparation, evaluation and modification of working papers. A state-level conference on multi-county health manpower planning was held. In addition to developing a system of procedures for assessment of the health manpower situation in Iowa, the study attempted to (a) estimate future needs for Iowa, (b) seek out emerging health occupations, (c) investigate the possibility of a restructuring of health occupations to rely less on professional occupations and more on supportive ones, (d) evaluate existing training programs and make recommendations for changes, (e) determine interest in a comprehensive health manpower study, (f) analyze existing studies, and (g) prepare data collection instruments.

The state conference produced the following recommendations for future investigation in the health manpower area, particularly in Iowa:

- Continuation of establishment of additional health occupations education programs according to surveyed needs.
- Determination of reasons why health manpower needs exist (i.e., improper use of personnel, undesirable working conditions, etc.).
- Improvement of communications with health professionals, employers, the public, high school counselors, and students.
- Continued evaluation of health occupation training program curricula.
- Improved coordination of health-related activities.
- Informing the public and the legislature as to the need for support of health occupation education programs.

The state conference also produced a recommendation for the establishment of a centralized Health Manpower Data Center in Iowa.

The concept included close cooperation of the Data Center with various Iowa health agencies that are interested in and responsible for coordination and planning, training and education of health manpower, certification of occupational competence, health delivery services to consumers, health occupational associations, and research centers.

Other publications which developed out of the pilot study were:

A Forecasting Model of Health Manpower Requirements in the Health Occupations. Dennis R. Maki, Industrial Relations Center, Iowa State University, Ames, Iowa, 1967.

Nursing Attitudes and Turnover: The Relation of Social-Psychological Variables to Turnover, Propensity to Leave, and Absenteeism Among Hospital Staff Nurses. Thomas F. Lyons. Industrial Relations Center, Iowa State University, Ames, Iowa, 1968.

Economics of Collective Bargaining by Nurses. Karen S. Hawley. Industrial Relations Center, Iowa State University, Ames, Iowa, 1967.

Working Papers on Comprehensive Planning for Health Manpower Needs. Industrial Relations Center, Iowa State University, Ames, Iowa, March 13-14, 1968.

A publication which was in the process of completion at the time of the publication of the study is: *The Demand for Technical and Supportive Personnel in Pharmaceutical Occupations.* Kenneth Mericle (in cooperation with the Iowa Pharmacy Association).

Shortage of Skilled and Technical Workers

The Shortage of Skilled and Technical Workers: An Inquiry Into Selected Occupations in Short Supply. Walter Franke and Irvin Sobel, Institute of Labor and Industrial Relations, University of Illinois, Urbana, Ill. June 1968.

This study, conducted in Chicago and St. Louis in 1963-1966, covered six skilled and technical occupations in which there were critical shortages of workers: licensed practical nurse, medical technologist, tool and die maker, tool and die designer, engineering technician—electronics, and engineering technician—metal working. The purpose of the study, in examining "the causes of critical occupational shortages and the effectiveness of current labor market processes and institutions in removing shortages," was to see how labor market institutions adjust to labor market tightness. In doing this an examination was made of the entire process of the labor market including employer demand, training programs and job placement. Various factors, including qualifications for and length of training programs, cost of training and wage trends, were studied for their effect on labor supply.

Some of the specific questions which the study attempts to answer are: "What have been the local and national trends in demand for workers in the occupation?" "Through what process do persons reach a decision to enter into training for the occupation?" "How adequately do training programs prepare persons for the demands of the job?" "What is the role of public and private employment services, training institutions and other labor market institutions in facilitating the move from training to employment?" "What are the characteristics of employment in the occupation that either tend toward retention or loss of workers to the occupation?" "How do employers adjust to labor shortage situations?"

Work Around Shortages

In a summary of the situation in all six occupations studied, the authors concluded that rather than act aggressively to alleviate the shortage situations, employers prefer to work around the shortages. In addition, more adequate occupational information is needed at the local level. Dissemination should be wider, and should include prospective workers, employers and educators. It was suggested that job-redesign efforts could help alleviate shortages by taking some of the lesser jobs off the hands of highly trained technicians. Industrial employers seemed the least affected by labor shortages; in fact, the quality of their services appeared unaffected. But in the medical professions, the quality of services did suffer.

Specific findings in regard to the medical occupations included: (a) there is a high rate of turnover in these professions (almost 40 percent per year for LPN's); (b) better pay and working conditions might retard the rate of turnover, but to no great extent as most workers left for personal reasons, and (c) more research is needed into means of attracting and holding trained personnel in this field.

Non-Medical Occupations

In the non-medical occupations it was found that (a) there is a slight relationship between employee benefits (pension plans, hospitalization etc.) and the ability of an employer to attract technical help, and (b) although employers cited a serious shortage of skilled technical workers, they were able to overcome the shortage without raising wages by adjusting plant practices (increasing overtime worked, etc.).

In general, the study concludes that the factors which affect adjustment of the labor market vary greatly from occupation to occupation and labor market to labor market and that no one program can solve all problems in this area. The program must be tailored to the particular situation, and even then must remain flexible. For example, the MDTA program of subsidizing training costs of unemployed persons would not help in these technical fields because the training costs did not appear to be a barrier to entrance into one of these occupations.

Tomorrow's Manpower Needs

Tomorrow's Manpower Needs: National Manpower Projections and a Guide to Their Use as a Tool in Developing State and Area Manpower Projections. U.S. Department of Labor, Bureau of Labor Statistics. Washington, D. C. February 1969.

The purpose of the four volumes of this report is to fill the gap in information relating to manpower as cited by President Johnson in his *1964 Manpower Report to Congress.* He stated: "Projections of probable need in particular occupations are an essential guide for education, training and other policies aimed at developing the right skills at the right time in the right place." It is hoped that through the national

projections made in these volumes, and through the guides to use in State projections accompanying them, local manpower analysts will be able to formulate useful projections of local manpower needs. The information should also be useful in planning national programs of education and training.

Volume I is devoted to the problem of developing area manpower projections. It first sets down the techniques for the use of national employment trends and projections in the development of State and area estimates of manpower needs. Methods for relating national trends to local trends and then using this to estimate future needs are discussed. In addition, a description of one State's use of national figures to develop manpower requirements for itself and for metropolitan areas within the State is presented. Several recent reports describing manpower projection techniques are reviewed.

Volume I also describes techniques for estimating needs resulting from deaths and retirements of members of the labor force. It estimates that about one-half of the new entrants into the labor force from 1965 to 1975 will be used to replace workers who have left the labor force. In addition, references are made to techniques for estimating replacement needs for jobs that have been vacated through transfer to another occupation or through migration of workers to another area.

Adequacy of supply in individual occupations is the concern of the third part of this volume, with several approaches to the appraisal of it being discussed. Questions concerning whether or not training should be expanded in particular occupational areas cannot be answered unless adequacy of supply is considered along with future manpower requirements. An analysis of occupational supply must include estimates of the number of deaths or retirements for an occupation during the projection period, those who will stop working for some other reason, those who will transfer to other occupations, and those who will leave or enter the local area.

Appendices to Volume I are (a) Estimated annual death and retirement rates for selected occupations, by sex, for employed workers in the United States, and (b) Projections of the population and labor force for States and regions, by age and color.

Volume II presents national trends and outlook for industry employment and occupational structure. Reasons for expected changes are discussed. According to the study, employment requirements by 1975 will increase 22 percent over the 1966 level. Total civilian employment requirements will be an estimated 88.7 million, and this figure accounts for a 3 percent estimated unemployment rate in 1975. Manpower requirements will experience a heavy shift from agricultural needs toward nonfarm occupations.

National manpower requirement projections are made in this volume for each of the following categories: agriculture, mining, contract construction, manufacturing, transportation and public utilities, wholesale and retail trade, finance, insurance and real estate services and other miscellaneous services, and government employment. Under most of these categories many subcategories are identified and studied.

Volume III discloses information relating to national employment trends and projected requirements for 1975 for the following categories: professional, technical and kindred workers; managers, officials, and proprietors; clerical and kindred workers; sales workers; craftsmen, foremen and kindred workers (skilled workers); semiskilled workers (operatives); laborers; service workers and farm workers. Under these major categories, 40 different occupations were selected for closer examination. Past employment trends, economic and technological influences expected through 1975, and methods by which workers may become qualified are discussed for each occupation.

Projections for occupational requirements discussed in this volume had to take into account diverse factors which affect the occupational structure of the work force. Some of these factors are shifts in income and consumption patterns, changing age composition of the population, government policies on such things as programs and expenditures, and supply and demand in the labor market. With these factors taken into account, the estimated increase in white-collar workers between 1966 and 1975 is about 28 percent; for blue collar workers the estimated increase is 18 percent.

Volume IV is composed of a series of appendices. The first of these presents the assumptions regarding the characteristics of the projection period's environment and methodology used to develop national industry and occupational projections. The second appendix presents data on the national nonagricultural employment of wage and salary workers by industry for the years 1960 and 1966, and a projection of the employment of these workers in 1975. Both the 1960 total national employment by industry and a projection of the 1975 scene are given in another appendix. The ratio of total national employment to wage and salary workers in selected industries in 1960 and a 1975 projection is the subject of another table. In addition, 1960 and projected 1975 figures on the total national employment by occupation are presented.

One of the problems in compiling and evaluating manpower and employment statistics is the disparity between occupational titles used by the Bureau of Labor Statistics and those used in the Census. One of the appendices in Volume IV attempts to present a comparison of the titles, showing which are compatible and in cases where they are not compatible, substitutions which have been used for purposes of compilation of data from both sources.

Two appendices dealing with percent distribution of employment for 1960 and projected 1975 are directed toward industry employment and occupational employment. Another set of appendices presents the change factors in industry—one for the occupational structure of selected industry and occupational classifications and the other for the structure of selected occupational classifications alone.

A companion volume to *Tomorrow's Manpower Needs* is now being prepared by the Manpower Administration of the U.S. Department of Labor. The volume, the *Manpower Administration Handbook for Projecting Employment by Occupation for States and Major Areas* is scheduled for publication late this year.

The purpose of the volume will be to aid analysts in States in using various methods and data sources to develop manpower estimates and projections for States and areas.

Employee Skills/Training Acceptable to Employers

A Comparative Study of the Employee Skills/Training Acceptable to Employers Under Varying Degrees of Labor Market Stringencies. W. Halder Fisher, et al. Battelle Memorial Institute—Columbus Laboratories, Columbus, Ohio. June 14, 1968.

This study, which was undertaken in mid-1966 by the Columbus Laboratories of Battelle Memorial Institute, examines employment requirements for certain entry level job categories in order to determine the extent to which the requirements might change according to the degree of tightness or looseness of the labor market. This information is needed by the U.S. Office of Education in order that it might establish vocational education programs which contain the necessary balance of various components. The assumption is that the employer's own criteria of employability are the guide to use in formulating curricula for vocational education.

The main objectives of the study, then, were to determine whether the employer's actual criteria for hiring are the same as his stated criteria, and whether his actual criteria remain the same under changes in the labor market. This would make it possible to determine the minimum qualifications a person really needed to get a specific job done.

Seven Areas Selected

For purposes of the study, seven labor market areas were selected that represent various socioeconomic and geographical conditions and differing degrees of openness in the job market. Unemployment in the chosen areas varied from two to five percent. Three to seven large business establishments were used in each labor area, with Battelle field teams covering 100 cases of a job category in a certain establishment altogether, including 11 specific job categories. The method of investigation included both examination of personnel files and personal interviews.

Some of the study's findings are:

1. An employer's *preferences* do not change with the market's tightness or looseness, but his actual *requirements* may fall below his preferences when he needs to fill a job immediately.
2. Although educational requirements vary, they are usually specific.
3. High school diplomas are often required for unsubstantial reasons, such as the idea that it represents proof of perseverance.
4. Although skills must sometimes be obtained before employment, at other times, providing the person has the proper educational background, the employer will train him on the job.
5. The interviewer's reaction to an applicant and his personal characteristics are very important in determining employment.
6. Vocational education programs focused only on skills will not aid the employability of disadvantaged groups. Personal development (character, attitude, grooming, etc.) must also be taught.
7. A tight labor market may be loosened by lower employment standards, higher wages, or increased promotion opportunities.
8. Some entry-level jobs are dead-end jobs. Although these jobs can be frustrating to young workers, they can be ideally filled by older, less ambitious workers, or by the culturally deprived or mentally retarded.

In conclusion, several recommendations were made regarding improvements in research methodology. Among these was the recommendation that research be extended to cover "relationships between wages and job functions; actual rather than claimed promotions; comparisons between characteristics of promoted and nonpromoted workers, and relations between qualifications, supervisors' evaluations and promotions."

In recommendations for additional research, the suggestion was made that a wide variety of other entry-level jobs be studied in the same manner as was done in this study. In addition, jobs which are higher on the career ladder can and should be studied in this same way. In making this study, the researchers also noted a need for a study of the following: "the functional requirement of contract janitor service, the employer's attitude to the worker's police record, and the use of screening tests by employers."

Among recommendations for social action is that which suggested a shift in emphasis in vocational education programs from skill training to general personality and attitude education. Applicants for jobs must have a knowledge of the manner in which to seek a job, and the attitude which is expected of them on the job. Training in filling out of application forms, taking tests, and manner of dress and speech for an interview are basic requirements for helping employ the hard-core unemployed.

In addition, the use of experience-oriented training programs and cooperative work-training programs which use facilities and instructors from industry was suggested. Coordination should be improved between vocational education programs and employers' manpower needs. Finally, a restructuring of job descriptions to employ a greater range of people was recommended.

Michigan Technician Need Study

Michigan Technician Need Study: The Present and Projected Demand for Technically Trained People in Michigan. James D. Kelly. Ferris State College, Big Rapids, Mich. November 1967.

This study provides information on both existing and future needs for technically trained staff in Michigan. It reports on educational programs for training of technicians and points out areas where additional research is needed. The study was conducted through interviews with employers from 1,218 private firms and 94 private and government hospitals, and it covered a period from late 1965 to early 1967.

Specific studies were done on technical occupations in fields related to chemistry, mechanics, drafting and design, electronics, health, information, production, and in the civil-related field. For each field, areas of investigation included figures on present employment, present vacancies and projected needs for 1970, a description of *minimum* edu-

cational requirements and *preferred* educational requirements, a description of present inadequacies in education in the field and existent training opportunities.

Findings regarding present and future requirements for technicians are summarized in the accompanying Table. Besides the technician shortage indicated by this summary, other problems were found to be plaguing the technical field. Improper training and utilization of technicians minimizes their value to many employers. Although most employers want the education of their technicians to be directed to filling specific needs, it was found that a generalized background in such areas as English and written communication is necessary. Training opportunities must include both inservice training programs and post-secondary educational facilities. In addition, cooperative programs and tuition-refund programs were found to be popular and valuable.

A residual effect of the study was a stimulation of the employers' awareness of and interest in technicians. This, in itself, has increased anticipated future needs. In many cases employers were made to re-evaluate educational requirements for existing positions in their firms only to find out that they could be using trained technicians in positions where they had been requiring persons with a baccalaureate degree.

PRESENT AND PROJECTED NEED FOR TECHNICIANS IN MICHIGAN EXPRESSED AS A PERCENTAGE OF CURRENT EMPLOYMENT

Technician Classification Areas	Need as a Percentage of Current Employment of Technicians		
	Vacancies 1966	Additional Need 1970	Total Need 1970
Chemical Related	8%	26%	34%
Mechanical Related	8	22	30
Drafting and Design	16	34	50
Electrical and Electronics	18	25	43
Health Related	19	8	27
Civil Related	11	28	39
Information Related	11	41	52
Production Related	10	17	27

Nine recommendations set forth by employers and educators emanated from the study. In brief they call for:

1. More adequate channels of communication between educational institutions and employers.
2. Development of a more realistic concept of a "technician" for use of school counselors, and avoidance of the lack of interest which some counselors show for any post-secondary education which does not lead to a baccalaureate degree.
3. Emphasis to counselors that technician training programs are not for the "less able" student, but for students with particular aptitudes.
4. Development of more cooperative education programs in post-secondary institutions.
5. Study of the feasibility of "providing related instruction for apprenticeship programs in the manufacturing and machine trades."
6. Examination of the feasibility of additional technical training programs in community colleges with resident facilities.
7. Study of college placement service operations.
8. Development of more core-curriculum technician training programs.
9. Further study of the needs of certain types of firms on the local level.

Topic Three: MANPOWER DEVELOPMENT

See Bibliography for information on availability of complete studies

Role of the Community Resource Person

The Role of the Community Resource Person in the Organization of a Coordinated Education and Manpower Development and Utilization Program. Henry E. Holmquist. The W. E. Upjohn Institute for Employment Research, Washington, D.C. November 1968.

This publication is the report of a program for the development of persons in the community who would be able to act as catalysts to effect changes in the community toward the initiation of a comprehensive manpower development and utilization program. This program was tested in Greensboro and Wilmington, N. C. It was found in initial investigations in the two communities that the absence of the necessary catalytic force for coordination of program components was due, not to disinterest in these programs, but to misunderstanding of the vehicles of action which can be used. In other cases, staff deficiencies in responsible agencies or interagency hostilities caused failures. The resultant fragmentation of social welfare programs was the basic problem confronting the researchers.

The researchers attempted to overcome the lack of coordination in local programs by conducting a series of meetings with local leaders. The attention of the leaders was focused, through the meetings, on the manpower problems in their communities, and on the available programs for changing the situation. In addition, a community resource person was introduced into each community for the purpose of organizing these leaders and directing their activities. In selecting leaders who would participate in the meetings, the researcher sought those who would be able to have a direct bearing on future programs, rather than those having just an academic interest in the matter. Many unfavorable responses to what the researcher was

trying to do were voiced; however, some of these were reversed by the success of the program in Greensboro.

The series of meetings was considered the "educational phase" of the program. Following this was the "action phase" in which the researcher stayed on in a consultant capacity to assist in the development of programs. The "educational phase" had succeeded so well that catalytic activities had been assumed, to a great extent, by members of the community who had started a locally funded program, and the researcher was needed very little in this sense during the "action phase."

Wilmington Program Fails

The program in Wilmington was ended after an unsuccessful "educational phase." Although the businessmen and community leaders were anxious to receive assistance in manpower development, and recognized the fact that it was needed in Wilmington, the report states that the town was too set in its ways to allow new and progressive leadership and programs to interrupt. Personalities of persons who were in charge of the various programs seemed more important than actual progress being made by the program. For example, if the townspeople did not like a program administrator personally, then his program was also considered bad. And if a popular member of the community was the head of a program, according to the report, the program's deficiencies were completely overlooked.

The report notes that: "What began as a group effort quickly dissolved into an assembly of individuals each expressing a willingness to tackle local problems but not at a cost to whatever status quo was personally favored . . . anti-Negro, anti-union and anti-Federal Government emotions proved stronger than the felt need to analyze and solve problems."

Although the program aroused initial suspicion in Greensboro, confidence in it grew to such a degree that the original 26 member group of community representatives grew to 31 members as several local leaders requested invitations to join the group. The final overwhelming success of the program in this city was preceded by several problems, however. One of these was that once the program was accepted by the leaders, they tended to want to see immediate results. A desire grew to skip the training aspect of manpower development and concentrate on immediate filling of jobs with available manpower. The researcher was faced with the problem of demonstrating the merits of a complete program.

Finally, a manpower development proposal was developed, with the base from which the program was to operate being the Greensboro Chamber of Commerce. The researcher adds a note of caution in the report that the Chamber of Commerce just happened to be the best vehicle for implementation of the program in Greensboro, but that this may not be so in other cities in which the Chamber of Commerce holds a different status within the community. A shortcut method of collecting manpower resource needs data, in order that current data might be used in organizing manpower training programs and recruitment, was being worked on at the end of the research study.

Researcher Is Motivator

One of the conclusions derived from the Greensboro program was that the role of the Upjohn Institute researcher was invaluable in keeping the program moving. As one local participant of the program said, "We probably would never have gone beyond the talking stage of this manpower situation if there hadn't been the continuing incentive to move ahead that the Upjohn Institute program provided."

Aspects of the researcher's role included maintaining a degree of objectivity in evaluation of local conditions and potentials, preserving the necessary flexibility in the program and providing a base for continuity in the program and creation of local leaders who would be able to carry on after he left. One of the main secrets to the success of the Greensboro program was that the people were always made conscious of the fact that the program was *their* program, and not that of an outsider.

Upjohn Institute recommendations for future Office of Education action in this area include investigation by USOE technical staff of necessary information and designation of methods for collection of data on manpower at the local level. In addition, it is felt that provision must be made for integration into local school systems of a professional staff that can coordinate programs which involve local community representatives in programs for institution of training programs in the community. Alternatively, catalytic agents, such as those used for this study, could be introduced into communities by the Office of Education for the purpose of coordinating the activities of educators, public employment service directors and industrial leaders in formulating solutions to the manpower problems of the area.

Federal Training and Work Programs in the Sixties

Federal Training and Work Programs in the Sixties. Sar A. Levitan and Garth L. Mangum. Institute of Labor and Industrial Relations. The University of Michigan and Wayne State University. 1969.

This volume offers an updated compilation of a series of Policy Papers in Human Resources and Industrial Relations originally published by Levitan and Mangum. Part One of the volume traces the development of manpower programs for the disadvantaged, while Parts Two through Eight cover the seven major manpower programs which have been funded by the federal government: The Manpower Development and Training Act, The Vocational Education Act, The Job Corps, The Neighborhood Youth Corps, Work Experience and Training, Vocational Rehabilitation, and the Reorientation of the Federal-State Employment Service.

The Manpower Development and Training Act is discussed in terms of its objectives, its costs and the unresolved issues which encompass major policy decisions which will determine the program's future. The present objectives of this billion-dollar program are defined as (a) facilitating

employment of the unemployed, (b) reducing poverty, (c) lessening inflationary pressures, (d) meeting labor shortages, (e) upgrading the labor force, and (f) revamping traditional institutions. The unresolved issues, which have been debated all through the history of the program, concern whether or not the program should emphasize upgrading of the present labor force or rehabilitation of those who are unemployed, what balance should exist between on-the-job and classroom training, what the relation should be between federal and state roles in the program, and whether a permanent manpower program is needed.

Vo-Ed Act Covered

The origin and achievements of the Vocational Education Act of 1963 are covered in Part Three, along with an attempted evaluation of the status and achievements of vocational education and a consideration of innovations in the vocational education field. Principles for the reorientation of vocational education are drawn. Among these are the tenet that vocational education should not be directed solely to the acquisition of skills, but also, and perhaps more importantly, to personal preparation for entrance into the world of work. Toward this direction, it is suggested that preparation for the day when a person will have to enter the labor market should begin in elementary school with a realistic picture of the world of work, and continue on through junior high school with a study of our economic and industrial system. A full enumeration of the guidelines established by the Advisory Council on Vocational Education for a system of education for employment is made in this section, with an evaluation of the reactions to them.

Policy Assessed

In an assessment of the current status of federal manpower policy the following ideas are set forth:

1. There has been no systematic effort toward coordination of manpower programs; instead, individual acts were written, often with indefinite specific goals.

2. Through manpower program experimentation in the sixties, an identification was made of services which have a positive effect in improving the manpower situation. Yet, these services cannot be found through any one program or agency.

3. Technical assistance in coordination of programs, from federal to local agencies, is a heretofore unmet need.

4. Evaluation of existing programs before formation of new programs by Administration officials and members of Congress is needed. So far this has not been done, resulting in attempts at devising "instant policies for instant success."

5. Some programs have been successful and merit expansion, although in some cases funds could have been better spent elsewhere.

Better management is obviously needed in manpower programs. As this report notes, however, much has been done in little time, and there is still hope for better results in the future. Among future needs is the design of a functional approach to manpower training and a redesigning of the current administrative structure. As the authors see it, manpower policy in the future must ". . . incorporate the lessons of present programs into a viable manpower program in aid of the competitively disadvantaged," ". . . raise policy sights from entry level jobs to meaningful working careers" and ". . . explore the interface between self-support and income maintenance as the nation in its increased sensitivity to human distress seeks to guarantee both employment and income."

A Pilot Study of Licensing Practices

A Pilot Study To Determine the Feasibility of Investigating Nationally the Impact of Licensing Practices on the Availability and Mobility of Non-Professional Manpower in Occupations Where Skill Shortages Exist. Benjamin Shimberg and John V. Moe. Educational Testing Service, Princeton, N. J. May 1968.

Non-professional occupations identified by the U.S. Department of Labor as ones in which there were shortages of skilled manpower were the subject of a study of the impact of licensing on job entry and interstate mobility and of the feasibility of securing data on this subject. The purpose of the study was to compile information on the structure, process and effects of occupational licensing in five geographically diverse states: California, Florida, Illinois, New York, and Texas. It was discovered that it was necessary to actually visit licensing agencies and talk with their personnel in order to obtain accurate data on these subjects.

Occupations covered by the study included aircraft mechanics, practical nurses, plumbers, ophthalmic dispensers or dispensing opticians, dental hygienists, psychiatric technicians, clinical laboratory personnel, electricians, and heating and air conditioning workers.

First to be studied was the structure for licensing of these occupations in each state. Procedures and costs of licensing and the examination procedures in each state were also examined. Finally, a study was made of the mobility of workers in these occupations which required licensing. Hope was expressed by the authors of the study that further research be done on the effects of licensing requirements on mobility of persons in these occupations. Tentative findings, however, indicated that reciprocity agreements (or the lack thereof) between states in licensure exert a definite influence on the ability of persons to migrate from one state to another with the hope of practicing there.

The investigators conclude that licensing practices tend to inhibit job entry and interstate mobility. Continuing research is recommended in order to ascertain the impact of licensing on the supply of skilled manpower with an emphasis on problems experienced by minority groups in passing licensing examinations. Suggestions for conducting continuing study tend to lean away from a questionnaire approach. Instead, it is believed that the most value would be obtained through a continuation of the process of in-depth studies which were made for this report, supplemented by questionnaire surveys of all states for less detailed information.

Investigators feel that the significance of the pilot study was not in the data which it gleaned, but in the questions and issues raised by the

data regarding new possible areas of inquiry:

1. An investigation of the rationale underlying various licensing requirements.

2. A questioning of the means by which the "experience requirement" is satisfied and of whether or not this requirement is a block to some members of disadvantaged or minority groups in obtaining licensure.

3. An investigation of examinations used, and a determination of whether instructional courses prepare individuals for the exams.

4. Recommendation of improvements for examinations.

5. Investigation into whether or not there is a good understanding of the procedures for obtaining licenses.

6. A search for information regarding the attitudes of disadvantaged groups toward licensing.

It is also suggested that in choosing states for investigation, those states be chosen which offer the widest availability of information, so that results will be as complete and accurate as possible.

Training and Technology

Training and Technology: A Demonstration Manpower Development Project. Worker Training Program, Phase I. Oak Ridge Associated Universities. Oak Ridge, Tenn. May 1969.

The Training and Technology (TAT) project in which unemployed or underemployed persons were trained for skilled jobs in industry was supported by funds provided by the U.S. Office of Education, Department of Health, Education, and Welfare, and the U.S. Department of Labor under interagency agreements with the U.S. Atomic Energy Commission, Oak Ridge Operations. Phase I of the project, which is the subject of this report, was conducted from June 1, 1966, to Jan. 31, 1969.

Fourteen organizations participated in the TAT program which offered advanced training in mechanical drafting, machining, welding, industrial electronics, physical testing-quality control, and laboratory glass blowing. The training, conducted by the Nuclear Division, Union Carbide Corp.. in a plant of the U.S. Atomic Energy Commission, used the educational resources of private industry, public education and government agencies. The first training course lasted 52 weeks. The second, because of improvements instigated by the first course, was reduced to 42 weeks. The second program also included a joint program with the Tennessee Division of Vocational-Technical Education which provided a 14-week program for vocational school students.

Evaluation of the TAT program was made possible through a comprehensive program of recruitment, training, placement, and follow-up. Progress of trainees was periodically tested, and final months of training were directed to the specific jobs each trainee would be taking on after graduation.

Although the TAT program included the unemployed, a major focus of the program was toward training the underemployed. The philosophy assumed in giving more advanced training to those already employed was that our nation loses as much from manpower wasted in underemployment as from unemployment. Skill development training, then, was supplemented by career development training, so that the trainee would have more opportunity to advance after placement upon completion of training. A series of seminars on job placement and career development were developed by the placement and guidance staffs of TAT. Use of role playing and organized discussion on subjects such as job interviews, applications and testing, and aspects to look for when seeking a job made the seminars interesting and valuable. Negro trainees, whose backgrounds often had left them unprepared to accept responsibilities and opportunities of career employment, were particularly benefitted by the seminars.

Three Major Advantages

The TAT program in its industrial setting was found to be valuable in three major ways: (a) trainees were expected to adhere to plant policies and practices, and thus acquired a strong sense of job responsibility which they could not have obtained in another setting; (b) instruction was provided by current industrial employees who could impart to the trainees a knowledge of the actual job requirements and practices, and (c) lack of motivation, usually a major training problem, was dissipated through the trainees' association with actual industrial employees whom they could look up to.

A comparison of scores of job-knowledge tests of TAT trainees and trainees in other programs indicated the value of the TAT industrial setting. TAT machining trainees attained in 42 weeks a significantly higher level of job knowledge than two-year graduates of machining programs in vocational schools, the same level as a group which completed three years in a machining apprenticeship program. The only group which scored significantly higher consisted of 25 advanced students in area vocational schools who supplemented their basic schooling with the 14-week TAT program. In addition, results of Ohio State University standardized trade achievement tests gave further support to the approach used in TAT.

Supportive Services Listed

Supportive services were given in order to make it more feasible for trainees to stay in the program. These services included arrangements for housing, transportation, and part-time work as well as obtaining legal and medical services and assistance in solving financial problems. Despite these services, there were dropouts of the program for various reasons including financial and medical problems and those who were drafted into the military or who returned to school. However, the dropout total for Phase I of TAT was only 15.8 percent of the enrollment.

Through the guidance and counseling services trainees were able to define their career goals, and through the job placement service they were assisted in finding jobs that would lead to these goals. Upon completion of training, full-time jobs with average starting salaries of almost $6,000 were accepted by 99 percent of the trainees. By Jan. 1, 1969, follow-up surveys indicated that of those still working the average TAT graduate's salary was $6,-333.60 per year—compared with the average yearly salary of $2,125.60 upon entrance to the TAT program.

Of the various research and ex-

perimentation activities conducted in conjunction with the program, one of the most interesting was the "25 Percent Group" study. The original idea was to select underqualified applicants as 25 percent of the total enrollment. As it turned out, three "25 per cent groups" were identified by different criteria and studied and evaluated separately. Findings were that, for each group, these members of disadvantaged and minority groups were able to be trained and placed in employment, even though their overall achievements were slightly lower than the norm.

The good results obtained from the TAT Phase I program have brought about the establishment of TAT Phase II, a program for training of 320 disadvantaged persons in industrial skills each year. In addition, work was begun on a satellite program for training Chicago Negroes to work in a new AEC National Accelerator Laboratory in Batavia, Ill. The TAT Phase I program findings have also been applied to training programs in other industry-government complexes and vocational education programs.

Major Findings Given

TAT has demonstrated that what is needed is an integrated solution to the overall manpower problem. Fragmented attacks at small segments of the problem are ineffective tools against manpower waste. It must be recognized that unemployment is not the sole area of concern—that as much, or more, can be lost through underemployment. Educational institutions must understand and respond to actual job needs and opportunities, in addition to putting meaning into areas and methods of instruction by relating courses to current-day job opportunities. In developing a comprehensive manpower program for a given area, assessment should be given to (a) training needs of residents of the area, (b) local employment opportunities, and (c) educational and industrial resources which may be used in training.

Some of the major findings of the report are:

1. TAT offered improved methods of manpower training involving government agencies such as the use of the interagency agreement, the full coordination of all aspects of a project, and the use of an outside contractor for performance of technical procedures such as proposal development, contract approval and project administration.

2. The participating industry (in this case, the Nuclear Division of the Union Carbide Corp.) reaped benefits from the program in the form of staff development, filling manpower needs and increasing training capabilities of the plant.

3. Participating educational institutions have gained knowledge for future applications in all phases of manpower education.

4. TAT methods, including use of the industrial setting, the related-subjects curriculum and guidance and placement activities, were able to produce high-quality results in a short time.

In recruiting trainees for TAT, it was found that there were at least 5,000 persons in East Tennessee who needed job training. TAT, of course, was able to deal with only a small percentage of this number. However, these recruiting experiences did reveal the inadequacies of current manpower programs and the need for a coordinated approach to manpower development. The main recommendation to come out of the TAT program was that a coordinated approach which investigates training needs and resources of the area and then tailors a program to these aspects is a major need in human resource development.

Gainful Employment In Home Economics

A Pilot Study for Gainful Employment in Home Economics. June Cozine. Oklahoma State University, Stillwater, Okla. August 1968.

This pilot study was concerned mainly with the gainful employment aspect of home economics which was added to the vocational program with the Vocational Education Act of 1963. Objectives of the study were, " . . . to develop and test curriculum materials for three entry-level gainful employment courses—Child Care Services, Clothing Services and Food Services" and ". . . to formulate recommendations for policies and procedures to follow in initiating and developing gainful employment programs in home economics." Of this four-volume study, the last three volumes are suggested curriculum guides for each of these occupational areas.

In preparing the gainful employment courses, guidelines for the courses were first established; then surveys were conducted of job opportunities for both during the training period and afterward, and of the types of skills and personal qualities which employers specified. Tentative curriculum guides were then developed, and through evaluations by those using the guides, two revisions have been published.

Members of the research team found two different types of problems and concerns:

"1. Problems and concerns unique to the development of curriculum guides for gainful employment courses: interpretation of the program; knowing the local community; assessing abilities, personal characteristics, and interests of students; utilizing available facilities; scheduling; and work experiences.

"2. Problems and concerns usually considered in curriculum development; such as the overview, behavorial objectives, concepts and generalizations, learning experiences, selected resources, and evaluation procedures."

Among recommendations which came out of the study is the suggestion that, prior to initiation of gainful employment programs in a particular locality, it be determined whether or not there are sufficient work opportunities in that locality and whether or not there are enough interested students and educators to make the program worthwhile. Establishment of various advisory councils was recommended, along with a suggestion that close contact with prospective employers of trainees should be maintained to assure having the training programs relate to future jobs.

A few recommendations were made regarding the character and competencies needed by a teacher in a gainful employment program, but it was admitted that more research was needed on this point. Additional research was also recommended of selection of students for gainful employment education.

plain talk

George L. Brandon, Editor, Research Visibility

The summer season, including a good share of the springtime, was made "long and hot" by a great deal more than the elements. The "season" may extend into October and November. Principal causes of the turbulence are (a) Congressional action on the appropriations for the Vocational Education Amendments of 1968, (b) manpower legislation of the Department of Labor, and (c) review and approval of State plans for the administration of vocational education under the VEA's of 1968.

All of the causes are highly related to the future of the research component of the vocational education program. It is apparent that vocational educators must acquire and make public a professional stand on *manpower* and its importance in education. The manpower concern continues as an unmentionable by education as a whole; this fact is only too conspicuous by its absence from the Federal education budget. Labor and manpower, on the other hand, are practically synonymous.

Avalanche of Manpower Literature. Many hours of the midnight oil will be required of the vocational education community to keep abreast of the publications concerned with manpower. Not all of the volumes, to be sure, qualify as sophisticated research; but there is a high degree of relationship to important inquiry with the major payload of critical implications for vocational and technical education.

First off, one is confronted with manpower statistics and projections, and admittedly they can be confusing. This generalization can safely be made of a great deal of research and data coming from the social scientist. Leonard A. Lecht, an economist with the National Planning Association, in a presentation to the National Research Conference in Vocational Education last winter, pointed up a caution without excusing the vocational educator from obligation to be sensitive to manpower projections.

The educator searching for information about future manpower needs is likely to encounter a mountain, and sometimes a jungle, of estimates indicating projected requirements and job openings for cooks, nurses' aides, truck drivers, nuclear technicians, and others. This mountain of information requires a map if it is to make sense. To appraise the information, the user needs a framework relating the projections to their purpose, their uses and their limitations.

As an initial guide to the use of manpower projections, I would suggest an aphorism attributed to the American philosopher, Whitehead. It reads something like this: "Seek simplicity, but mistrust it." I would re-phrase Whitehead's aphorism to read: "Seek manpower projections, but use them with caution." Manpower projections, like other economic projections, can be useful in indicating strategic areas of change to be taken into account or the implications of alternative developments for the economy of manpower utilization such as the effects of either an increase or a decrease in defense expenditures in the coming decade. However, we are many lightyears away in the social sciences from being able to predict the future 5, 10 or 15 years from now. This is true for manpower needs, and it is also true for stock prices.

Of much more interest to the vocational educator, numerous studies of the education and training aspects of manpower are rolling off the press. A few of these major publications are reviewed in this issue's *RV*. Many more studies are currently "in process" and hopefully in the future will be reviewed, or at least show up in the *RV Bibliography*. It all goes to point up the critical need of vocational educators to acquire a thorough understanding of manpower, manpower policy and manpower planning at national, state and local levels and their relationship to vocational and technical education programs as they *are* and as they *should be*.

Some Manpower "Must" Reading. For vocational educators (and not inappropriate for general educators and academicians) the following should add a great deal more than a graceful position on professional bookshelves:

The *Policy Papers* of the Institute of Labor and Industrial Relations, P.O. Box 1567, Ann Arbor, Michigan 48106:

1. *The Design of Federal Antipoverty Strategy.* Levitan ($1.25)
2. *Making Sense of Federal Manpower Policy.* Levitan and Mangum ($1.25)
3. *Antipoverty Work and Training Efforts: Goals and Realities.* Levitan ($2.00)
4. *Vocational Rehabilitation and Federal Manpower Policy.* Mangum and Glenn ($1.25)
5. *Contributions and Costs of Manpower Development and Training.* Mangum ($2.00) (out of print)
6. *Jobs and Income for Negroes.* Killingsworth ($2.00)
7. *Reorienting Vocational Education.* Mangum ($1.25) (out of print)
8. *Reorienting the Federal-State Employment Service.* Nemore and Mangum ($1.25) (out of print)
9. *Antipoverty Housekeeping: The Administration of the Economic Opportunity Act.* Davidson and Levitan ($1.25)
10. *Equal Apprenticeship Opportunities: The Nature of the Issue and the New York Experience.* ($1.25)
11. *Job Development for the Hard-to-Employ.* Ferman ($2.00)
12. *The Youth Labor Market.* Kalachek ($1.50)
13. *Employing the Disadvantaged in Federal Civil Service.* Mangum and Glenn ($1.50)
14. *Education for Employment: The Background and Potential of the 1968 Vocational Education Amendments.* Evans, Mangum, Pragan ($2.50).

To tempt your appetite for the most recent release of the Institute, *Federal Training and Work Programs in the Sixties* by Levitan and Mangum ($6.50 soft; $9.50 hard) the authors in discussing the principles and report of the Advisory Council on Vocational Education (Essex Committee) observe:

> Even more impressive than the Vocational Education Advisory Council's unanimous report was the fact that the American Vocational Association appeared generally pleased with it. Perhaps it was the fact that while criticizing some of the traditional practices of vocational education, the Council was even more sharply critical of the general education curriculum as "preparation for nothing" and of the Office of Education for timidity in its leadership role. Undoubtedly involved was the fact that, though critical of the past and present, the Council recommended

expenditures of $1.6 billion per year for a system in which vocational educators would play a major role, but with built-in incentives for achieving the announced objectives. Despite these self-interest motivations, however, there is indication of a willingness to change and a hunger for leadership. ("Re-orienting Vocational Education," page 156.)

A Preview of Things To Come? *The Training and Development Journal* of the American Society for Training and Development tucks in its "Washington Report," this note:

RESEARCH BUREAU PHASEOUT: ETMR (Education-Training Market Report) has learned that Bureau of Research of Office of Education will be divided up into component parts and reassigned to related organizational units within agency. Higher educational research, for example, will be assigned to Bureau of Higher Education, where component was originally. Vocational Education research will be assigned to Bureau of Adult and Vocational Education, etc. Budget of Bureau of Research, which has been running about $100 million annually, will be absorbed within budgets of so-called mother bureaus. (page 64, Vol. 23, No. 7, July 1969).

Anyone for a Dissertation? Doctoral candidates may be missing fine assistance if they do not investigate the offer of research grants of the director, Office of Manpower Research, Manpower Administration, U. S. Department of Labor, Washington, D. C. 20210. The Manpower Research Grants Program sponsors dissertations, and applications are reviewed and grants awarded quarterly. It is notable that in less than four years, 125 dissertation grants of up to $10,000 each have been awarded to students at 74 different colleges and universities.

Personnel Development. For teacher educators and others interested in educational personnel development: Obviously, vocational personnel development is not the exclusive domain of colleges and universities, and state and local educational agencies are becoming highly involved and reflected in criteria of the Education Professions Development Act for funding proposals. Are you on the distribution list to receive *ERIC News,* the monthly publication of the Clearinghouse on Teacher Education? Joel L. Burdin, Clearinghouse director, will welcome your interest while the supply of the *News* holds out. He may be reached at the Clearinghouse, 1156 15th St., N.W., Washington, D. C., 20005. Long-range information plans for education were discussed in the *News* of Vol. 1, No. 5, May 1969.

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The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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PREFACE

Exemplary and residential aspects of Vocational Education

RESEARCH VISIBILITY finds itself without a sharply focused framework of criteria to identify and report these aspects in the research and development of vocational education. This fact does not mean that the merits of the characteristics have been forgotten in the past or in contemporary development of on-going programs. Perhaps, at least for the sake of definition, program development will be "rescued" by the precise language of legislation and its determination to make instruction exemplary.

Somehow the limitations of the legal and regulatory framework, as necessary as they may be, are difficult to reconcile with a pervasive philosophy of vocational education—more so the research and investigation which should reveal its true nature.

Current professional comment of the exemplary has some interesting flavor. The comment seems to indicate that vocational education should change, but the "change" specifications are nebulous and for change-sake. Undoubtedly, one of the great benchmarks of vocational programs of the past (and hopefully of the future) is an attitude of vocational educators which makes realistic and meaningful programs of instruction for the many individual differences of youths and adults who are enrolled.

Realism and relevancy can in themselves be exemplary. As characteristics of sound vocational education they should be fully acceptable and desirable in today and tomorrow's world of clichés and new educational twists.

The exemplary and "bridge-building." Obviously, exemplary programs and bridge-building (reality between school and the world of work) are becoming synonymous. The search seems to be for *models* which will achieve this purpose; at least modern conceptual models take the form of vocational cooperative education, occupational information and adjustment, and many forms of "occupational orientation." The underlying thesis and bridge foundations seem to be *change* in vocational education; "change agents," the modern vocational bridge builders and engineers, have many prescriptions.

It is both ironic and understandable that vocational educators are concerned with strategies for implementing change. It is ironic because vocational educators, particularly those concerned with changing agricultural techniques, have had dramatic success with invoking change. Too, they have been in the forefront in conducting research into the change process. But is it not also understandable that they should be concerned? The very fact that change has been wrought suggests that those who have been most successful would also be most sensitive to the problems of change—particularly the problems associated with implanting changes which make a desired difference." (Samuel A. Moore, Michigan State University, in *Strategies for Implementing Exemplary Programs and Projects in Order to Make Maximum Change in the Educational Process.*" National Conference on Exemplary Programs and Projects, Atlanta, Georgia, 1969)

This issue of *Research Visibility* synthesizes a small selection of reports which have exemplary implications. It also contains a few abstracts of reports related to the development of residential programs in vocational education. Unfortunately, research and reporting of the residential are as lean in the professional literature as are the provisions of legislation and its appropriations, which should have generously supported residential development many years ago. It is tragically plain that the development of residential vocational education, the last and only recourse of many Americans whose birthplaces discriminate against them, must await more "exemplary" and courageous action for their birthright.

National Exemplary Conference Report (guidebook). A limited supply of the guidebook of the Atlanta conference may still be available from the Division of Vocational and Technical Education, U.S. Office of Education, Washington, D.C., 20202. Michael Russo is coordinating the publication of the various conference reports from project contractors. Please contact him for the various guidebooks each of which may or may not contain copies of the major presentations which were made last winter.

Vocational Guidance in Secondary Education

Vocational Guidance in Secondary Education, Results of a National Survey. Robert E. Campbell. The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. December 1968.

This study, conducted in the fall of 1966, surveyed the guidance situation in 353 public secondary schools in 48 states. The purpose of the study was to describe the services, functions of counselors, and student contact found in most schools today. These facts would provide a point of reference from which to begin future surveys. The survey was also designed to compare the opinions of parents, students, teachers, counselors, and administrators of the present status of guidance in their schools, and to suggest changes which are needed in the educational preparation of guidance counselors.

Findings of the study indicated that the order of types of advice most frequently sought by students is that (a) regarding education, (b) vocational guidance, and (c) guidance in personal adjustment problems. It was found that very often students will receive guidance information and assistance from sources other than counselors: teachers, parents and friends. These sources were used despite the fact that most students reported being aware of the counseling services available in their schools. It was also found that, of the students responding to questionnaires, only 31 percent had had two or more 15-minute conferences with a counselor during the preceding year.

Information on the amount of counseling time with students by type of problem is reported in the accompanying table. It indicates that the largest percentages are devoted to college education, compared with 10 percent spent in counseling students in the selection of vocational programs. The report also indicates that few counselors have had training in counseling of vocationally oriented students.

In a survey of students and parents, the response was strongly supportive of the need for guidance services in areas such as information about the world of work, personal adjustment and study habits.

Opinions varied on whether different guidance programs should be offered for vocational education students. Forty-five percent of the counselors felt that programs should be different, but 43 per cent indicated that they should not. In regard to training given the counselors themselves, however, 48 percent of the counselors felt that training given counselors of vocational students should differ from that given other counselors.

In making conclusions from the study and in trying to delineate recommendations for further study, the investigators noted that the major problem is that of selecting a set of realistic goals for guidance programs. It is recognized that the personnel and facility needs for a "truly effective" guidance program are almost twice as great as those actually available. It is therefore necessary to design a systematic guidance program which will make the most efficient use of available resources. Recommended steps for designing such a program are outlined in the report. These include:

- Stating the needs which must be satisfied.
- Defining guidance objectives which will contribute to satisfying the needs.
- Defining constraints which the program must satisfy.
- Devising alternative systems.
- Selecting the best alternative.
- Pilot testing the selected alternative.
- Implementing the tested program.
- Evaluating this program.
- Modifying the system along lines suggested by feedback.

It was suggested that, in development of a guidance program, a variety of guidance methods be considered for use in the program. Team operations, the use of teachers and paraprofessionals in the counseling program, and use of data processing equipment for supportive services are among the suggestions.

Future research, the report concluded, is needed in the area of adoption of innovations in the field of guidance. Research into student assesment of counseling systems is another subject of research; others are the problems related to the transition from school to work and those related to students with special needs.

PERCENTAGE OF COUNSELING TIME WITH STUDENTS BY TYPE OF PROBLEM AS ESTIMATED BY COUNSELORS—A SUMMARY OF MEDIANS BY TYPE OF SCHOOL

	Type of School						
Problem Areas	Urban Comprehensive	Rural Comprehensive	Urban General Academic	Rural General Academic	Urban Vocational	Area Vocational	All Schools
College education	20%	20%	30%	25%	10%	5%	20%
Emotional or personal problems	9	10	10	10	10	10	10
Low achievers	10	10	10	10	15	15	10
Vocational program selection	10	10	10	10	15	15	10
Post-high school education*	10	5	10	10	5	5	9
Post-high school job placement	5	10	5	10	10	10	5
Potential dropouts	5	5	5	5	5	10	5
Extracurricular activities	3	5	2	3	1	1	2

*Other than college.

Junior High Course in Occupational Opportunities

An Experimental Junior High School Course in Occupational Opportunities and Labor Market Processes. Robert L. Darcey and Phillip E. Powell. Center for Economic Education, Ohio University, Athens, Ohio. June 1968.

This two-year research and curriculum development program was based on the assumption that ". . . young people will be better prepared for successful participation in the labor force by developing understandings about the nature and operation of our economic system, the role of work, changing technology and occupational opportunities, decision-making procedures, the economic value of education, and labor market processes . . ." and that ". . . they will also benefit from self-examination of their own attitudes, values, goals, and behavior relative to career planning, occupational success, economic life, social roles, individual development, and self-fulfillment."

In order to assist young people in developing understandings, the project proposed to develop a set of instructional materials for use in a course to be given to junior high school pupils, and to field test, evaluate and disseminate these materials.

In preparation for the development of the instructional course, the project staff surveyed available literature related to the economics of manpower, and psychological and sociological aspects of work attitudes and understandings. Meetings were conducted with experts in the fields of education, guidance and manpower economics. Major themes for the lessons were established: Analysis, Choice, and Decisionmaking; The World of Economics; The World of Work; Labor Market Structure and Processes; Psychology of Work; Sociology of Work; and Education and Its Economic Value. The 316-page course which evolved is included as an appendix to this report, along with the companion 140-page teacher's manual.

Each of the 75 individual lessons in the course, *Manpower & Economic Education: Opportunities in American Economic Life,* includes a brief summary of the content of the lesson, followed by a main text including discussion questions and a final paragraph emphasizing the most important aspects of the lesson. Some of the chapters treat "The Role of Labor Unions," "Are Today's Skills Good Enough for Tomorrow's Jobs?" and "Making Something Out of Your Job". The teacher's manual includes supplementary material such as suggested readings and answers to questions posed in the lessons.

The course was administered to eighth, ninth and tenth grade students in eight schools near Athens, Ohio, and specially prepared tests and questionnaires were used to evaluate the effects of the course. The tenth grade students used in the experiment were a specially selected group of "potential dropouts" who had demonstrated weak motivation and poor academic records. Results of the tests indicated that manpower and economic understanding was increased significantly, as were attitudes toward these issues. In addition, short-range advantages, such as increased interest in schoolwork and improved attendance, were noted by teachers.

It is suggested in the report that a clear explanation of the nature of the program's objectives be given to teachers and parents before its introduction into the curriculum. General approval of these groups usually appears, provided they have a clear understanding of the program. It is noted, however, that the course does deal with sensitive matters, and that negative attitudes could develop if it was not clearly understood.

Future research possibilities in this area include development of instructional materials for special ethnic and economic groups, and for use in programs such as adult education and economic opportunity programs. In addition, use of the "daily lesson format," in which instruction is given in short units rather than in long chapter form, for other instructional areas is suggested.

Inservice Training

North Carolina State University at Raleigh is the recipient of a U.S. Office of Education grant for conducting seven interrelated institutes for the inservice training of vocational educators and related personnel needed to strengthen vocational education in rural areas.

The first institute in the series will be aimed at "Coordination of Supportive Services for Vocational Education Students in Rural Areas" and will be held on Oct. 5-9 at the University of Arkansas, Fayetteville.

Student Personnel Services For Area Vocational Schools

Developing a Program of Student Personnel Services for Area Vocational-Technical Schools. James E. Bottoms. Georgia Department of Education, Division of Vocational Education, Atlanta, Ga. December 1968.

A system of 25 post-secondary area vocational-technical schools was created in the 1960s in Georgia. The need for the schools was necessitated by the migration to the cities of largely unskilled rural populations. Because Georgia's high schools were too small to provide comprehensive vocational programs, the alternative solution of providing area vocational-technical schools was adopted. One of the important features of the educational function of these institutions is the program of student personnel services, which was developed during 1966 and 1967 by committees of student personnel specialists, school directors and consultants. This report gives the background and it also describes this personnel service program.

Following the appointment of a student personnel specialist, a four-phase development process was initiated. First, a questionnaire was administered to school personnel and a random sample of students was made to identify the school personnel services needed. Results of the questionnaire identified the following student needs: (a) deciding whether he should attend a vocational-technical school; (b) choosing the course to pursue once he entered the school; (c) deciding whether or not he should change to another program or stay in the one he was pursuing, and (d) deciding his future after completion of his work at the school.

The second phase consisted of various activities for the development of the program: (a) a two-day organizational planning conference was held, with participants being drawn from school directors, student personnel specialists and consultants; (b) task force committees were set up by the conference to plan for services (information service prior to student enrollment, admissions, student personnel records, orientation and information service, counseling, job placement, and evaluation); (3) a work conference was held at which all school directors and student personnel specialists were informed of the results of the work of the task force committees.

The third, or implementation, phase of the developmental process aimed at involving all members of the schools' staffs in setting up the plan in their respective schools. This phase was carried out by a series of inservice meetings at monthly intervals, with a different aspect of the student personnel service plan being highlighted at each meeting.

The fourth phase of the project consisted of a review of the seven different services planned by the task forces, and the degree to which they were appropriate for the specific area school. A few new approaches were noted as being more suitable than those recommended by the task forces, but in general the entire program had been successfully implemented in each school.

Seven Major Services

The seven services planned for in the task force committees became the major areas covered by student personnel services in Georgia's area vocational-technical schools. One of these services is the preadmissions information service, the function of which is to inform the public of the educational opportunities available through the schools, and to assist prospective students in relating their own occupational interests to the opportunities available in the schools. This service actively seeks out persons in the community who would profit from the programs offered at the area schools by developing informational materials, establishing close contact with secondary schools, and staging publicity campaigns in the community in order to reach persons who are not enrolled in secondary schools.

Another service provided is the admissions service. Because of the nature of the vocational-technical school, it is necessary for the student to choose the specific occupation which he will study prior to entrance in the school. For this reason, it is the responsibility of the admissions service to assist the prospective student in deciding upon a program which will lead to his entrance in an occupation in which he can have pride and dedication. Because an area vocational-technical school must use an inclusive rather than exclusive admissions policy, the admissions counselor must assist the applicant in choosing a realistic goal in light of his capabilities. He must define the range of practical choices for the particular student and then guide him in making the most beneficial selection from this range.

If there is no program offered by a school for which an applicant will be qualified, the admissions counselor must assist him in examining opportunities outside the school. In order to direct the student to the best course of action for himself, it is necessary for the counselor to work closely with instructors in the various occupational fields to determine minimum entrance requirements for each occupational course.

Personnel Records System

A third segment of the personnel services is the student personnel records system. This system is of great importance before, during and even after enrollment. Before enrollment, the system is used to assist prospective students in examining their capabilities in order that they may select the correct occupational program. In addition, staff members are assisted in planning instructional programs in advance through use of these records.

During enrollment in the school the records provide data for analysis of student achievement and aid counselors in student guidance. The records also provide information on the strengths and weaknesses of the overall school program, so that research and evaluation may be directed toward improvement of the educational program.

After enrollment, these records may be used as evidence of how area vocational-technical school students fare in the world of work. Data from the records can be used for evaluating the instructional programs of the school and the student personnel services themselves. Potential employers can use the records to investigate the achievement records of former students.

Although it is specified as a separate service of the student personnel services, counseling is a service which is part of all of the other functions. Counseling is used to help a student understand his own potentials and to relate the available educational services to these potentials, thereby forming a plan of action for his personal occupational development. In addition, the counseling service performs functions in solving a student's personal, financial and study problems.

Group Guidance Sessions

The information service of the student personnel services is implemented through group guidance sessions planned jointly with faculty members. The object of these sessions is to inform students of decisions which they may need to face, of the purposes of the school, and of educational opportunities offered by the school as well as other educational opportunities. Preparation of students with attitudes they will need after leaving the area vocational-technical school is a main part of the job of the information services.

The job placement role of the area vocational-technical schools is not one consisting solely of placing the right student in the right job. The service must establish a "total" system which helps the student to acquire a basic attitude toward and understanding of the world of work in order that he may find a good job and make the necessary adjustment to it while understanding what is expected of him by his supervisors.

In addition, the student must be shown how to obtain the information he wants to know about a prospective job so that he can avoid underemployment. The job placement effort in area vocational-technical schools is a cooperative effort between the student personnel specialists and the instructors. This cooperation is especially important in that it helps the instructors to achieve

greater satisfaction from their work by actively participating in the final results.

A final segment of the student personnel services is that of self evaluation. Systematic and continuous feedback of data of the results of the service serves to keep the service sensitive to the needs of the student, and to keep the direction taken by the student personnel services up to date. The method by which the service evaluates itself is to delineate exactly what effect the service is expected to have on students, and then to see if this effect was achieved on graduates of the area school.

There are four other related publications that have been produced by the author: (1) *Counselor's Guide to Georgia's Area Vocational-Technical Schools;* (2) the *Phase I Report, Research Project 236: Developing a Program of Student Personnel Services for Area Vocational-Technical Schools;* (3) *Ways the Area School Personnel Worker and Surrounding High School Counselors Can Work Together,* (all published by the State Department of Education at Atlanta); and, (4) "Developing Statewide Norms for the Dailey Vocational Tests" (Houghton Mifflin Company, *Test Service Bulletin.* 1966).

Information System For Vocational Decisions

An Information System for Vocational Decisions. David V. Tiedeman, et al. Harvard University, Graduate School of Education, Cambridge, Mass. June 1, 1968.

This report summarizes the activities of the Information System for Vocational Decisions (ISVD) during its eighth quarter, March 1, 1968, to May 31, 1968. The ISVD project is studying the use of the computer in facilitating the vocational counseling process, and it is sponsored by Harvard University, the Newton Public Schools in Massachusetts and the New England Educational Data System (NEEDS).

At the base of ISVD is the theory on the process of career decisionmaking that a student can make good career decisions only if they are made in the context of his life span. ISVD proposes to create a setting for career decisionmaking for the student which will foster a sense of continuity and a sense of control over the decisionmaking process. The setting which is being created is a vocational reckoning environment which contains the student, an extensive collection of data about jobs, and a guidance machine.

Examples of data are facts about jobs, colleges, trade schools, military specialties, and the student himself. These data are organized into five data files: occupational, military, educational, personal and family living, and student characteristics. The guidance machine provides a means for the student to obtain data and provides a record of his access to the data so that he may review the way in which he makes decisions.

ISVD is now creating a description of the behavior of a guidance machine that is sufficiently explicit for a computer to act as if it were the guidance machine. This description is provided through the development of computer programs which permit certain basic and generally required functions to be performed, and the development of ISVD software, or programs enabling the computer to serve as a guidance machine.

The major component of ISVD software is a series of scripts, or programs, which contain the text to be presented to a student, instructions on how to process the student's responses, etc., all to appear as conversation to permit the student to be free to generate his own questions in a natural form.

In other words, the computer must be able to deal with English sentences. The authors describe the process of adapting ISVD needs to a computer program called ELIZA; the process is incomplete and the investigators claim only a first step toward attaining the natural language capability they are seeking.

A central organizing structure of the ISVD system at the junior and senior high school levels is a modified version of the Life Career Game, which is played as follows: An introductory film with an orientation to the game is shown; this is followed by a practice round which allows the player to make decisions involved in planning, school, work and leisure activities, and these decisions are scored. Then the player is ready to go through a series of short rounds in which he can make decisions about work, school and leisure; after each round the player is scored. At the end of a game session, the session and all previous sessions are summarized for the student or player.

As one part of the project, a Career Resources Center has been moved to Newton High School, where the student response has been a positive one, indicating that students want and will use information when it is available for education and vocational decisionmaking.

The authors feel that the immediate impact of the availability of a Career Resources capability in the Newton School System is most apparent in relation to counselor functions. However, they point out that in the area of career development and vocational guidance, counselors need more training, resources, and consultations. They feel that the counseling function will ultimately center on a personal counselor-student relationship which then extends to other resources, such as that proposed by this study.

The authors point out that in schools today administrative and curriculum concerns have major priority, and that the potential contributions of counseling are not being considered in these activities. Administrators, teachers, counselors, and the community as a whole will have to be made aware of this need and the necessarv funding and organization to correct it.

An ISVD orientation and capability has been written into the specifications for the new technical-vocational facility for Boston, which includes a Career Resources Center, a Cooperative Education Component and a placement operation.

The field tests are still in process: (a) testing of a decisionmaking booklet used by junior high school students in Newton, and (b) assessment of changes in attitude of pupils associated with the work-study program at Newton.

The end of the quarter saw the completion of data processing planned for the first prototype of occupational forecasting, making high and low estimates of employment by year for 1968-1980 available for presentation to inquirers in the system. The estimates were drawn from national data by occupational and industrial group.

Cooperative Vocational Education Conference

Notes and Working Papers from The National Conference on Cooperative Vocational Education, Implications of the 1968 Amendments. University of Minnesota, Minneapolis. February 1969.

This conference, held Feb. 26-28, 1969, brought together representatives from State Advisory Councils on Vocational Education, representatives from vocational education, and school superintendents and principals in urban and rural areas. Representatives from business and industry, labor, private schools, professional and trade associations, civic and community organizations, and guidance personnel also participated.

Specific objectives of the conference program included the development of (a) an understanding of new authorizations relating to cooperative vocational-technical education programs, (b) capabilities for increased leadership and responsibility for such programs, (c) understanding of the available resources for development of these programs, (d) understanding of the critical areas of need in the field, and (e) an extension of knowledge of techniques for coordination with government agencies in developing programs.

Essential elements of a good program of cooperative vocational education recommended by the task force groups and consultants for the conference were:

1. A well-qualified, highly dedicated teacher-coordinator.
2. Related instruction focusing on technical competencies, career development and occupational adjustment and taught by the teacher-coordinator.
3. Adequate time for the teacher-coordinator to supervise instruction and on-the-job training.
4. Adequate facilities, equipment and materials to provide instruction related to the student's job and career goal.
5. Placement and instruction matched to the student's career interests, abilities and aspirations.
6. Prevocational education and guidance services which prepare students for selecting the most appropriate training opportunity.
7. A student-directed youth organization like FFA, DECA, etc.
8. A selection of cooperative vocational education programs to serve the needs of students of different abilities, career interests and aspirations—including the disadvantaged, the nonprofit private school students, and the drop-outs.
9. Full wages and credit toward graduation while receiving on-the-job instruction.
10. Written training agreements and individual training plans developed and agreed upon by the employer, training sponsor, student, and coordinator.
11. Community involvement in planning, organizing and supporting cooperative programs.
12. An advisory committee composed of representatives from business, industry, labor, the school, and students enrolled.
13. Compliance with all state and federal laws regarding employment practices.
14. Continuous evaluation and revisions based on follow-up on student-trainees and achievement of program objectives.
15. Ancillary services to provide inservice teacher education, supervision, development of curriculum materials, evaluation and research for the improvement of cooperative education.
16. Adequate funds to support a quality cooperative vocational education program.

Seven major papers were presented at the conference and are included in the appendix. They included the following.

Henry Borow, University of Minnesota, presented a paper on "Potential Contributions of Cooperative Education to the Student's Vocational Development." In making a critical assessment of vocational education, Dr. Borow observed that the division which is being maintained between college preparatory curriculum and the vocational curriculum in the high schools today is "dangerously outmoded."

Because of this division, and the recognition that in the United States upward mobility in the social scale is related to the amount of education one has received, he noted that most parents are strongly opposed to having their children enter vocational programs which will deny them later access to college.

Another fault which he finds in vocational education is that rigid curriculum policies are continued, even though research points to the fact that youth of secondary school age are not yet ready to make such rigid career decisions. He believes that schools should aim at increased job mobility in the career patterns of vocational education students, preparing them mainly for survival in the world of work.

Some vocational training for college-bound youth was suggested because of the high mortality rate in college, leaving those who had taken only a college preparatory curriculum unprepared for the world of work.

In conclusion, Dr. Borow noted that formal programs of cooperative vocational education hold much of the educational responsibility for providing youths with experiences which will accelerate development of vocationally mature behavior. Goals of cooperative vocational education which concern fostering of career development of the student, such as advancement of identity formation and a work ethos, must assume a new importance.

The paper presented by John A. Sessions, education specialist, AFL-CIO, emphasized the need for exploring new approaches to vocational education. Underlining the fact that no single way of teaching vocational education exists, Mr. Sessions noted that, among the many programs, cooperative education holds great promise.

It is necessary, he cautioned, to present the vocational student with a broad enough curriculum for him to develop a "capacity to change." The student also needs a program which will make the academic part of the vocational curriculum relevant to his job goals. A factor in cooperative education which he thinks is equal in importance to proper curriculum is the proper planning of the work experience, with emphasis on acquiring good work attitudes.

Speaking on "The Employer's Role in Cooperative Occupational Education," Robert V. Guelich, vice

president of public relations, Montgomery Ward, Inc., attempted to answer questions frequently posed when educators and employers meet. Among these is the question of how employers are selected and evaluated. Also, he discussed measures which can be taken by schools to relate better to employers. Means for improved cooperation in working for a common cause were illuminated. Finally, he emphasized the importance of working together for better legislation for vocational education.

H. I. Willett, superintendent of schools, Richmond, Va., made a presentation titled "The School's Role in Cooperative Occupational Education." Dr. Willett explored the implications of the rapidity of change and its effect on people the explosion of knowledge, and the population explosion and urbanization.

He outlined reasons for the importance of cooperative occupational programs. Among these he included (a) the fact that schools are unable to provide training in the myriad of occupations available in today's society, (b) the need for motivation for some students to see the relationship between education and the job they will enter after completion of schooling, and (c) the difficulties encountered in finding enough teachers who are qualified to teach highly specialized technical skills.

Finally, he made suggestions for the improvement of administrative organization and design, including the planning, coordination and evaluation aspects of the programs.

A theoretical model school system was outlined by Marvin J. Feldman, program officer of the Ford Foundation, in his remarks concerning "The Community Role in Cooperative Vocational Education." This system would include programs for students of diverse abilities, from elementary to college level, with community backup systems. These systems would be centers for students who are unable to succeed in regular school programs. At the center, each student could proceed at his own speed in specially constructed courses of study. Mr. Feldman also described various programs in vocational education now being funded by the Ford Foundation.

Trudy Banta, research associate, University of Tennessee at Knoxville, presented a paper titled "Interpretive Study of Cooperative Efforts of Private Industry and the Schools To Provide Job-Oriented Education Programs for the Disadvantaged." Dr. Banta reported findings of a survey of "exemplary" cooperative programs. Among these findings were that a communication gap exists between business and schools, and that changes in school policy have resulted from contact with industry.

Frank Bobbitt presented a paper titled "A Comparative Study of Two Concurrent Work-Education Models in Agriculture." This paper described a study which had as its objective the determination of whether or not significant differences existed in the outcomes of two programs used in the State of Illinois.

In one of these programs, school time was used for the work experience; in the other program work experience was gained in out of school hours. The study showed no significant differences between attitudes of students, instructors and administrators who participated in the two programs. Dr. Bobbitt suggested, therefore, that both models might be used to fit the right model to the local situation.

The proceedings of the National Conference on Cooperative Vocational Education will also result in the production of a *Guide for Initiation of Cooperative Programs* to be published in the fall of 1969. See bibliography for information on ordering this document.

New Research Program

Researchers in the biological, behavioral, and social sciences are invited to submit basic research proposals under a one-year program which began July 1, 1969. Information regarding the program may be obtained from the Research Analysis and Allocation Staff, Bureau of Research, U.S. Office of Education, 400 Maryland Ave., S.W., Washington, D.C. 20202.

Concurrent Work-Education Programs In 50 States

Concurrent Work-Education (Programs in the 50 States 1965-66). William John Schill. University of Illinois, Champaign, Ill.

This study covers both cooperative education and work-study aspects of concurrent work-education in an examination of the conduct of these programs in the 50 states. State education offices and individual school districts were called upon to provide data for the study, which is primarily concerned with activities in which students become involved.

Results of the data collected show that distributive education has the greatest number of enrollees. Enrollment in individual programs was found to range from one to 228 students, with 20 students being the median program size.

Trade and industrial programs, as might have been expected, were centered mostly in urban centers, although population centers of all sizes were found to be offering this program. Enrollments ranged in size from one to 415 students, with 25 students being the median.

Approximately 37 per cent of business education programs were located in larger cities. The median enrollment in these programs was 18 students, although they ranged from one student to 161.

With the states of Alabama, Florida, Illinois, Minnesota and North Carolina accounting for most of the diversified occupations programs, the student enrollments ranged from one to 216, with a median of 25 students.

Cooperative agriculture programs, although existent in cities of all sizes, concentrated in those with populations under 25,000. Between one and 95 students were enrolled in the programs, but 12 or fewer were enrolled in 78 percent of the programs.

Cooperative programs were found in 2,451 schools which did not also have work-study programs. In comparison, 1,823 schools having work-study programs did not have cooperative programs. Two-thirds of the schools having cooperative programs were found to have only one offering in that program.

A great deal of futility was experienced by the investigators in attempt-

ing to summarize the data. Correlations which they had supposed would exist failed to evolve when figures were computed. For example, the amount of funding for schools within a given state and the amount of concurrent work-education programs in that state were expected to be correlative. However, no substantiation of this was possible through the data received. In addition, much of the data received through questionnaires administered to local school districts failed to coincide with data gleaned from state records of these same school districts.

Mention is given to subjective impressions collected in the form of anecdotal comments by members of the investigating team. These cover such areas as cooperation seen between Departments of Vocational Education and other segments of state departments of education.

A chapter on "Characteristics of Students and Programs" summarizes data from the study, a great deal of which is in tabular form. Some interpretation of these figures is made. Abstractions are presented from dissertations on concurrent work-education programs for handicapped students and also on experimental programs in one high school which were conducted in conjunction with the main study.

Topic Three: EXEMPLARY PROJECTS

See Bibliography for information on availability of complete studies

Occupational Training for School Alienated Youth

A Pilot Project To Develop a Program of Occupational Training for School Alienated Youth; Second Interim Report. The Center for Vocational Arts, Norwalk, Conn. 1968.

The second interim report of The Center for Vocational Arts covers research and other activities conducted from Sept. 1, 1967, to Aug. 31, 1968, the third year of operation for the Center. The first two years' operation was reported in a previous interim report which is summarized in the appendix of this volume. The Center originated as a pilot project for development of occupational training for school-alienated youths of ages 15 to 21. Individual programs are formulated for each stumic subjects taught through developattitudes which will permit him to become a productive member of the work community.

The Center program consists of guidance, counseling, occupational training and academic instruction, with training offered in a number of vocational-technical fields. Emphasis is placed on the use of new and different methods and approaches of instruction. Students attend classes for three hours each day, with part-time employment occupying four hours of the day. They work toward acquiring either a high school diploma or a vocational certificate, or both in some cases. Time spent in occupational training does not determine whether or not they receive the certificates; rather, they receive the certificates upon their personal attainment of the skills required to enter their chosen fields.

School dropouts and others recommended by secondary schools as potential dropouts were selected for admission to the Center. Basis for selection was the aptitudes and interests demonstrated by the student, and a feeling that the project would meet the student's needs. A policy of "rolling admissions" was instated. This policy provides for the release of a pupil as soon as his objectives are met, and the immediate enrollment of another student to fill his place. In the 1967-68 school year, although the number of pupils enrolled in any one month never exceeded 209, a total of 286 students were enrolled throughout the year.

Constant modification of the vocational programs offered at the Center is necessary in order to meet the demands of constantly changing vocational demands in the work force of the city. For example, the office services department was modified by the addition of a keypunch machine and an offset press for student instruction. The addition of a greenhouse and instruction in repair of small engines (such as those used in lawnmowers) to the landscape and horticulture program has made graduates of this curriculum more desirable as potential employees. Mass production methods introduced into the manufacturing operations program have helped in showing trainees the conditions which they will encounter in industry.

In the third year of operation of the Center, an effort was made to extend the individualized instruction aspects of the program to the academic subjects taught through development of programed materials. A plan was prepared for constructing "Units for Individualized Learning" through use of the "Behavioral Outcomes Approach." Separate packets were developed for the areas of science, mathematics, social studies, and language arts, to be used in the fourth year of the Center's operation.

Research undertaken by the Center during the 1967-68 school year included a follow-up study of graduates, evaluation of the Center's training programs, assistance in curriculum development, case study follow-up, and development of new curriculum materials.

In the "Appendix to the Second Interim Report," a separate volume, three reports by a New York University Research team are presented. Summaries of each of these reports are included in the original volume.

1. "A Comparative Study of the Perception of the School by the Students 1967-1968" is the direct result of questions regarding the Center for Vocational Arts asked the students in 1967 and 1968. Questions such as "What should students get out of the CVA program?" and "What sort of things did the counselors do for you?" were answered with more maturity and a greater awareness of the aims of the program in 1968 than they were in 1967.

2. "How Students See Themselves" was compiled from information obtained through self-ratings of students and alumni and from personal interviews with each 1968 graduate. In addition, students filled out questionnaires regarding the

school and its teachers, facilities, counselors, and administration. Findings demonstrated that, in general, students felt that they had gained confidence in themselves and were able to mingle with people better since attending the CVA. Better social lives, greater ability to understand their personal problems, and control of their feelings were other reported improvements. Positive attitudes were expressed toward counselors, teachers, education, work, and life goals.

3. "People Do Change: Case Study Reports of the Students 1967-1968" presents a cross-section of case studies made by the research staff. The studies stress family and academic background, physical, social, intellectual and character development, emotional health, personal interests, and counselors' recommendations for improvement. A comparison of the studies demonstrates that family life was the most important determination of a student's performance at CVA.

Included in the report is a summary of the reactions following a one-day visit to the CVA by the chairman of the Department of Vocational Education of New York University. Also, the report of a consultant's visit to the school is included. A final section presents a summary of commendations and recommendations which evolved from research and visits made by various persons. Recommendations cover such areas as counseling, academics and facilities.

Occupational Preparation in a Secondary School

The Development and Demonstration of a Coordinated and Integrated Program of Occupational Information, Selection, and Preparation in a Secondary School. Raymond J. Agan. Kansas State University, Manhattan, Kan. June 1968.

The particular vocational education problems of a rural secondary school were the object of this pilot project. A program of occupational information, selection, and preparation was developed for the eleventh and twelfth grade students of the Paola, Kansas, High School to determine if improved vocational programs can be attained through proper guidance and the cooperative efforts of all vocational educators, along with the participation of sociologists. psychologists and with business analysts.

"A Research Pilot Program in Vocational Education," conducted in Miami County, Kansas, was directed at determining the manpower needs of the community. Surveys were conducted to discover the types of occupations for which there was need in the county, and the number of persons currently employed in each of the occupations.

Interviews were conducted with persons in the various occupations to determine competencies needed for their jobs. General satisfaction was expressed with the competencies demonstrated by graduates of vocational programs who were employed in nonfarming agricultural fields, although there was a shortage of graduates in these fields. Need was demonstrated for an expansion of occupational preparation programs in Kansas schools.

In the next phase of the project, Paola High School, with an enrollment of about 300 students, was chosen as the school through which the objectives of the plan would be tested. The vocational program of the school offered agriculture and home economics, with nonreimbursed courses in office education and industrial arts also being available. Students selected to take part in the pilot program had completed the first two years of a vocational program and had expressed an interest in preparing themselves for the world of work.

A course of study for the project was prepared on the basis of findings of a research project carried out during an eight-week workshop at Kansas State University. Workshop participants included the six instructors who would work with the pilot project. The course of study for both the eleventh and twelfth year courses is included in a separate volume (Appendix A) to the study.

The eleventh year course was devoted to an investigation of "Commonalities in Occupations," or those aspects which are found to be common to all of the traditional fields in vocational education. During the year, students had the opportunity to observe at least four different occupations with the guidance of a teacher/counselor who had a background in the occupation.

The students observed working conditions, salary possibilities and skills needed and made field trips to observe men at work in their chosen occupations. On these trips they made job applications and were interviewed just as if they were applying for the job. The employer made observations on the qualifications of the student for the job, and he gave these observations to the counselor for use in helping students evaluate their chances of success in particular occupations.

The twelfth year course was devoted to giving the student "Experiences in Occupations." At the end of the junior year, an occupation was chosen in which the student had the greatest interest, and acceptable training stations for this occupation were located by the instructor for a part-time job for the student. The student was required to acquire the job on his own through the process of job applications and interviews, and a training outline was then planned for each student with the assistance of the employer. Each student worked a minimum of 15 hours each week, and he was counseled and given job-related assignments by a teacher/counselor who had a background in the part-time job he had chosen. On-the-job performance was evaluated by the employer every nine weeks.

Data were collected through personal interviews with parents and employers, and through questionnaires which the students filled out at the end of their senior year. The program, which was in operation three years, received the overwhelming approval of participating employers, and they encouraged its continuation. In addition, parents were enthusiastic about the program, responding that it had helped their children gain maturity, confidence and enjoyment of school life.

Evaluations of the program by the Mid-Continent Regional Educational

NOVEMBER ISSUE . . . Next month, *Research Visibility* will report on studies dealing with Comprehensive Planning in Vocational Education.

Laboratory, the National Education Association and the Kansas State Teachers Association were all laudatory. It was noted that the eleventh year course started students thinking realistically about selecting an occupational area and beginning preparation for it. The schoolwork of students in nonvocational areas was given additional meaning through their work in the program. Although this project utilized many features of conventional cooperative programs, its unique features, it was concluded, made it particularly valuable in a rural setting such as Paola and well worth the consideration of similar schools elsewhere.

National Conference on Exemplary Programs

Papers Presented at the National Conference on Exemplary Programs and Projects. Atlanta, Ga. March 12-14, 1969.

This National Conference was held to discuss the implications of the Vocational Education Amendments of 1968 for exemplary programs and projects, and to work toward the compilation of a guidebook for planning and implementation of exemplary programs in the states. A guidebook will be published by the U.S. Office of Education in the near future. Encompassing the ideas set forth through the conference and its series of workshops and regional clinics which followed, it should provide guidance to state planners in devising their exemplary programs and projects of the future.

In an introductory paper, meant to be a starting point for further discussion of the 1968 Amendments, the authors emphasize that "we must engage in dialogue with the entire educational community" . . . "to come up with the truly exemplary programs and projects." The intent, nature and implementation of exemplary programs and projects are discussed, with the concluding note that the exemplary programs and projects section of the Amendments offer a chance to begin to make vocational education more meaningful and relevant for students.

James E. (Gene) Bottoms, associate state director, Division of Vocational Education, Georgia State Department of Education, and Kenneth B. Matheny, Department of Counseling and Educational Psychology, Georgia State College, presented a paper on "Occupational Guidance, Counseling, and Job Placement for Junior High and Secondary School Youth." The paper aims at the development of a system of guidance experiences for junior and senior high school students who will not be attending college.

General principles for meeting the guidance needs of students are presented. The first one is that guidance should not be a function solely of the guidance counselor, but it should be taken on as a responsibility of the entire school staff. Also, simulated or direct work experiences should be used rather than traditional methods such as audiovisual aids in describing various potential occupations for the students.

As the results of improved counseling structures and job experiences, the student should also be able to develop a better understanding of himself. Community resources for career development of students should be investigated. Experiences for career development must be organized into a program which will begin at the elementary level and continue until the student decides upon his next step beyond high school. All experiences offered in the high school curriculum should be made meaningful in terms of this next step. Models are presented for all school years from grade 7 through 12 by which these guidance goals may be met.

"Elements of a Model for Promoting Career Development in Elementary and Junior High School" was presented in a paper by Norman C. Gysbers, associate professor of education, University of Missouri. His model begins with the kindergarten student, in helping the child to establish himself in relation to others in the school and home. The current status of activities for career development offered by schools of today is examined, and some basic conditions for learning are established for use in originating model programs of this type.

Gordon Law of Rutgers University discussed "Personnel, Resource Materials, and Occupational Information Exchange Programs—Schools, Manpower Agencies, Industry, and Other Public and Private Agencies and Organizations." He traced the background of the exemplary programs sections of the 1968 Amendments and reviewed studies and recommendations found in literature as they relate to personnel, resource materials and occupational information exchange programs. Four programs having exemplary aspects were presented, and guidelines were offered for future programs.

"Unifying an Entire System of Education Around a Career Development Theme" was the subject presented by Edwin L. Herr, professor of education and chairman, Graduate Programs in Counselor Education, Pennsylvania State University. In order to determine the efficacy of using such a theme for unifying a system of education, consideration is given to the implications of a systems approach to education, to career development and behavioral goals, to the relationships between career development and general or vocational education, and to operational goals towards which exemplary programs and projects might be directed.

Examples of efforts to make educational programs more meaningful for all students were presented in a paper titled "New and Improved Career Centered Curriculum Models To Serve College and Non-College Bound Students, and Young Workers." Programs of comprehensive planning, earlier introduction to vocational information and the cluster concept were presented. A "Partnership Vocational Education Project" between levels and disciplines of education was discussed, with a preengineering technology program for preparation as an engineering technician. In addition, a commercial food service program (Project FEAST) and a "new discipline" concept were investigated.

The concept of "Work-Experience Educational Programs for Secondary Youth" was presented by George W. Burchill. Four different exemplary work-experience programs researched under a Ford Foundation grant to Phi Delta Kappa were reviewed: The Secondary Work-Experience Ed-

ucation Program in Santa Barbara, Calif., designed to present students with an opportunity to try out various jobs; The Prevocational Services for Handicapped Youth in Champaign, Ill.; a Cooperative School-Hospital Program in Cranston, R.I., for non-college bound girls; and a Work Study Program To Prevent Juvenile Delinquency in Kansas City, Mo.

"Strategies for Implementing Exemplary Programs and Projects in Order to Make Maximum Change in the Educational Process" was presented by Samuel A. Moore, II, of Michigan State University. Included in his strategies are the ideas that exemplary programs must be accepted both by those who are to administer them and by those who will receive the benefits of them. The programs must complement existing programs and must be able to change when better ways of achieving an end are discovered.

John K. Coster, director, Center for Occupational Education, North Carolina State University at Raleigh, presented a paper on "Patterns and Guidelines for Administering Exemplary Programs and Projects at the State Level." He emphasized that a climate for innovation must be created in a state, and that products of research must be used in planning, developing and executing exemplary programs. A state office for exemplary programs should be established for the functions of priority determination, consultation, management, and coordination and actuation. An "Exemplary Program Management and Resource Allocation System" is presented.

In the final paper of the Conference, V.E. Burgener, director of Research Coordinating Unit, Board of Vocational Education and Rehabilitation, Vocational and Technical Education Division, Springfield, Ill., outlined "how a system can operate." Using as his resource his personal experiences in the State of Illinois, Dr. Burgener emphasized the need for an organizational structure for administration of the exemplary project program. Educational "imagineers" are another vital part of the operation of an exemplary program system, according to Dr. Burgener, as these are the people who develop ideas. Guidelines for presenting the ideas of the "imagineer" in a clear, concise and brief form for acceptance as proposals were also given.

Topic Four: RESIDENTIAL SCHOOLS

See Bibliography for information on availability of complete studies

Essential Factors

Evaluation of Residential Schools and the Essential Factors Which Contribute to Their Operation. Final Report. George A. Parkinson. Milwaukee Technical College, Milwaukee, Wis. 1969.

In order to determine the feasibility of establishing model residential vocational schools for 14 to 21 year old disadvantaged youths, this study surveyed 13 existing residential schools. These schools ranged from ones having a strong technical orientation to ones offering solely the usual academic secondary curriculum. A study was made of the organization and administration, the instruction and student services offered, and the finances and staff of each school.

The study was conducted by a team of investigators through an initial questionnaire covering the four areas of interest, and through personal two-day visits by the team. Each team member had responsibility for investigating a particular segment of the school, but findings by other team members regarding the segments were exchanged in post-visit conferences.

Conclusions of the investigation pointed to a need for residential vocational schools, not only for the disadvantaged, but for youths living in rural areas who are unable to commute to a vocational school located some distance away from their homes. The findings of this study should be useful as guidelines for establishment of residential vocational schools throughout the country.

In the organization and administration of residential schools, the investigating team formulated several recommendations.

—In regard to the age of the residents, it was suggested that a minimum age of 16 years be set, as many states do not permit youths under the age of 18 to work in skilled and semiskilled jobs in industry. The period of time spent in the school by youths would be excessively long were they to enter at an earlier age.

—The school should be located in proximity to a large center of population so that the opportunities provided by the city such as work experiences, cultural events and other vocational training facilities would be within commuting distance.

—Recommendations for planning of the campus and of the size of the school are offered, as well as suggestions for possible sources for funding. Staffing recommendations cover counseling, teaching, and house parent staffs.

In regard to formal instruction, the investigators recommended that classes be kept to a maximum of 15 pupils and that special instructional materials be developed which disadvantaged youths can understand. Use of field trips and contemporary laboratory facilities should be a part of the educational experience.

Specific suggestions for organization of the instructional program included the recommendation that prevocational training for younger age groups be directed to general clusters of occupations so that students will be able to make a choice for more intensive study.

Remedial programs for reading and arithmetic are also needed. In addition, use of work-study programs should be seriously considered.

Student services recommended include establishment of minimum entrance requirements to be administered through an admissions department, and the establishment of a student government so that residents may share in establishing rules for their community. On-campus employment and post-graduation job placement services should also be established.

In general, the investigating team found that the institutions studied saw as their primary objective the provision of quality instruction for their students. Qualified instructors

were deemed to be the most important contributing factor to successful operation of the schools, while lack of financing was considered to be the greatest deterrent.

National Conference

Consultants' Working Papers: National Conference for Residential Vocational Education. The Oklahoma State University School of Technical Training, Okmulgee, Okla. March 28, 1969.

This conference was held at Oklahoma State Tech on Feb. 26—28, 1969, for the purpose of increasing the understanding of persons responsible for the development of residential vocational education programs. Specific goals of the conference, as stated in the introduction to the reports, were:

1. To assist local, state, and federal vocational education leadership to understand the challenges inherent in the establishment and operation of a residential vocational education school designed to meet the needs of substantial numbers of youth who have dropped out of school or who are unemployed.
2. To develop an understanding of the type of services required by the students, such as: housing, medical, dental, guidance, social, civics, personnel and group activities that will contribute to good citizenship and social competence of the students.
3. To explore the type of curricula of such a school and the variety of adaptation necessary to meet the needs of each individual student.
4. To look into the social and behavioral problems of youth who will need counseling and guidance in a residential school.
5. To develop an increased understanding of the problem of meeting the needs of youth with economic, social, academic, cultural, physical or psychological handicaps.
6. To prepare a summary paper for presentation at the nine regional vocational education conferences.

The conference was attended by 174 leaders in the fields of education, industry and government from 29 states. They participated in six general assemblies and nine discussion sessions. Nine papers were presented for the use of conference participants in formulating ideas, and these nine working papers resulted in summary papers published in a separate volume, *Consultants' Summary Papers.*

Results of the conferences built around these working papers will be formulated into guidebooks for establishment of residential vocational education facilities by the U.S. Department of Health, Education, and Welfare in the near future. Copies will be available for persons responsible for these programs at state and local levels.

Boys Youth Center

Boys Residential Youth Center, Final Report: 1968. Frank J. C. Neisser and Ronald D. Kaplan. Boys Residential Youth Center, New Haven, Conn. 1968.

This report, compiled at the end of the second year of operation of the Boys Residential Youth Center, provides the reader with a detailed description and analysis of the work of the Center during a two-year period. Emphasis is placed on defining the role of the model youth center and assessing the degree to which it fulfilled the original goals set for it. Applications of this model to other potential residential facilities are also discussed.

The purpose of the original study was ". . . to explore the potential and significance of an inner-city, indigenous community-based residential youth center as a locale for assisting disadvantaged youth to benefit maximally from training or employment, in order to develop a better understanding of the home-family obstacles to successful training and work adjustment of these youth and of the tools and techniques needed to overcome these obstacles."

Specific objectives planned for the study included (a) providing special living arrangements and supportive services to make training more effective; (b) testing the effectiveness of the situation; (c) modifying the residents' own home environments in order to eliminate disturbing influences after leaving the youth center, and (d) using the residential center as a training ground in these problem areas for the staff.

The New Haven project stressed elements such as (a) a homelike atmosphere with a two-way "open door" policy with the surrounding community; (b) keeping the Center within the inner-city ghetto; (c) coordination of services for the youth and his family; (d) job training and placement in conjunction with the residential program; (e) use of indigenous nonprofessionals to help residents with problems, and (f) the use of a self-help concept based on the pride and self-determination of these youth.

Results of follow-up work of the Center's enrollees point to the overall success of the program. Three case histories presented in the report demonstrate the ability of the RYC to make worthwhile citizens out of boys who had made early starts in careers of crime.

New questions have been brought forth by these studies, however, bringing into view the problems that must be investigated in the future. These questions involve broad concepts such as problems to be encountered in different geographical areas and under other funding arrangements, effects on the nonprofessionals used on the staff, and using RYC's as a basis for other community programs.

Recommendations of the researchers for future RYC work include: (a) making some of the good ideas developed in the program an integral part of the functioning of future RYC's; (b) use of a monitoring system to make sure that all necessary jobs are being done by the staff; (c) setting of goals for programs; (d) continuous use of compilations and evaluation of staff problems; (e) more thorough investigation of the impact of the Center on the community, and (f) changes in the selection and training of staff and abolishment of staff titles and status hierarchy.

Editor's note: A Training and Research Institute for Residential Youth Centers, Inc., has been recently established through the Manpower Administration of the U.S. Department of Labor, and additional residential youth centers are presently being established in Flint, Mich., Bridgeport, Conn., Boston, Mass., Cleveland, Ohio, and Trenton, N.J.

An experiment by which only one-third of the funding for these centers is provided by federal funds, with the remaining two-thirds being raised by the community has been apparently successful in Flint, Bridgeport and Boston.

plain talk

George L. Brandon, Editor, Research Visibility

EXEMPLARY begins in definitions and ends in programs—for people. And somewhere along the continuum lies the job of research. Not unlike many terms in education the term "exemplary" snowballs into a mixture of misunderstanding and confusion. Obviously, it is formalized in the language of the Vocational Education Amendments of 1968, and vocational educators must be prepared to initiate and carry forward *exemplary programs,* or "new ways to create a bridge between school and earning a living for young people." Thus there is strong implication for the *new,* the *creative,* and stated "cooperation between public education and manpower agencies."

All of this is difficult to square with Webster who has it: (a) serving as a pattern, thus deserving imitation, and commendable, (b) serving as a warning (monitory), and (c) serving as an example, instance or illustration. The synonym we hear is "model." A national conference was devoted to the topic, and it was reconsidered in nine regional clinics which followed (*see page 43 for details*). What characteristics of a *model* vocational education program are valid transfers to other vocational education programs (which are not much of a model) and of what value are these characteristics to individual student goals and objectives for employment and the world of work?

There's a place for the exemplary in our manpower concept. Vocational educators and educators in general should not consider themselves aloof from the need to take a strong hand in the development of manpower and the policy (at all levels) to support it. The lack of this concept and the determination to make it the focus of education is shaping up as one of the most serious crises to confront education in American democracy in our time.

This fact is not a cry of "wolf" of vocational educators.

"The public schools of the United States have long had a primary responsibility for providing education and training for employment as well as for responsible citizenship and individual development. Certain bills introduced in this session of Congress could significantly alter this role by removing public and private education and training agencies from this function in the nation's manpower program. A number of implications for public education are apparent in the proposed legislation, including the very real possibility of establishing a dual system of education in the United States: one for the affluent who know how to use the system and another for those who are unable to manipulate the system.

Because of these concerns it is hoped that an in-depth treatment of this subject will be of interest to *Hot Line* readers. (*Hot Line.* Published by the American Association of School Administrators. Washington: Vol. 2, No. 6, July 1969, page 1).

The above reference to "certain bills" is documented by an avalanche of new legislation on the part of the Department of Labor which has already been introduced and more to come in the hopper for comprehensive treatment. To the experienced vocational educator who has witnessed past efforts of this nature, the new manpower push is as old as sulphur and molasses and almost as perennial as spring tonic. But it has never been equally serious with its past foot-in-the-door technique. The *Hot Line* admonition should not be minimized by any educator; it is many fold more serious than if all of the angles could be unfurled. As an educator you are 'way behind the contemporary times if you are without a copy of *Hot Line* for even a baseline treatment of the issue.

But, you must admit, we have been exemplary in the "alphabet soup" of manpower. And the rash of agencies in the manpower marketplace must be highly confusing to the youth or adult who needs help. A few examples follow:

- If he or she is young, unemployed or disadvantaged—refer to NYC, MDTA or JOBS.
- If in need of counseling—try YOC, AIC or USTES.
- If older and in need of job training—better look into MDTA, CEP, HRD, JOBS, WTS, or WIN.
- An American Indian? For job assistance the best bet is EAP.

Sylvia Porter in the July 22 *Boston Herald Traveler* relates the soup to the maze of manpower agencies.

One estimate is that there are more than three dozen different federal manpower programs in operation—aimed at various groups ranging from teenage dropouts to the elderly poor, retired farmers, migrant workers, slum dwellers, ex-military servicemen, the physically, mentally, vocationally and "socially" handicapped . . . So befuddling has the patchwork become that federal agencies are now actually issuing special "reference guides" to help observers sort out the different job training programs.

Why not propose your ideas for "targeted communications?" USOE's Research Utilization Branch is enticing proposals on the subject to "provide school administrators and others involved in improving educational practice with information for modification of existing programs or implementing new ones." Ten projects are already underway. If interested, write for proposal specifications to the RU Branch. *Deadline is Dec. 1, 1969.*

Good manpower documentation—do you have these? From the village smithy to nuclear technicians on the manpower team—their needs are estimated in the four volumes of *Tomorrow's Manpower Needs.* Volumes II and III may be the most helpful to the educators. Order Vol. II (Industry Employment and Occupational Structure, BLS No. 1606, $1.25) and III (Occupational Employment, 55¢) from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. A good companion volume is *Counselor's Guide to Manpower Information,* Bulletin 1598, also from the Superintendent of Documents, $1.00.

With new careers and paraprofessionals there may be more than two

sides of the coin. The *New Careers Newsletter* reports an interesting list of criticisms of the new careers programs and the semipro's:

—Paraprofessionals themselves say, "There are no real career ladders; small pay increments but no real leaps. The training is inadequate. Job descriptions are [illegible] Col-lege courses are too narrowly vocational."

—From professionals and administrators, "It's hard to fire a paraprofessional—the community will squawk. Paraprofessionals want instant careers. They do not want to take the time necessary really to learn complex skills. Professionals' work cannot be factored out; it's all of a piece."

—Among community comments are, "Paraprofessionals 'high hat' the poor; they are too much like the old professionals. New careers is just poor service for poor people, on the cheap. Paraprofessionals are co-opted, bought off. . . ."

—From critics are, "The pay is so low, the ladders so fake, and few men are involved. There is no real change in the service system; just band-aids on a cancer." (New Careers Development Center, School of Education, N.Y.U., Room 238, 239 Greene St., New York, N.Y. 10003. Editor Alan Gartner)

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GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

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Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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GUEST EDITORIAL

COMPREHENSIVE PLANNING
a capsule treatment

OTTO P. LEGG

Research Visibility sidesteps its traditional word of introduction to the topic of the month to acquiesce to a guest editor of the month. The editorial privilege is ably assumed despite limitations of space to highlight the critical importance of planning these days as implementation of the Vocational Education Amendments becomes operational.

Few people on the national scene have the experiences and insights in comprehensive planning as Otto P. Legg, senior program officer, Program Planning, Division of Vocational and Technical Education, U. S. Office of Education, Washington, D.C. Of the few people, fewer still would subject their ideas to the violence imposed by RV's space requirements. Dr. Legg, convinced of the critical importance of planning in vocational education, presents salient features of the process for our entrée.

THE QUESTION may be asked, why is planning necessary and what are its essential elements? The answer is, that resources available for the provision of all public services are limited. Education is in competition with all other public services. Therefore, comprehensive planning is necessary to provide accurate information for decisionmaking and for management of funds made available by local, State and Federal governments for education.

While our country provides a volume of education never before attained, certain imbalances must still be adjusted—the incidence of dropout, unemployment, delinquency, and the basic inequality of educational opportunity. These imbalances force a critical examination of traditional methods of providing educational services and of inhibiting factors which affect the education and employment of people.

The expectation is growing that modern education must be fully planned and offered in a precisely controlled manner.

The educational system must be attuned to each individual as he grows and matures in our American society.

The state of the planning art is quite low and must be improved both in regard to functional planning and coordinative planning at all levels.

Planning Objectives. Comprehensive planning for vocational education must be directed toward main types of activities:

1. Programs providing initial educational development; that is, those efforts necessary to adjust each individual to a useful occupational and social role in American society.
2. Programs of vocational education provided from time to time which are necessary to help each individual remain productive and adjusted toward the American social system.
3. Continuing education directed to all individuals who may benefit from it vocationally as they mature in the American society.

Many educational institutions do not see their roles as comprehensive, nor do they consider their programs in the light of overall local and State objectives, nor make meaningful comparisons between alternative programs or alternative ways of carrying out programs. The tendency has been to select and justify programs on the basis of intuition or tradition, to plan and budget in terms of object and activity, and to evaluate in terms of effort expended.

Planning is often isolated or compartmentalized. The recent interest in "management by objective," or "program packaging," and further specified in the Vocational Education Amendments of 1968, has encouraged states and local communities to conduct broad planning activities to reduce educational and related problems. Planning which is comprehensive must involve all agencies

and organizations which contribute to the administration of occupational education. Such planning takes into consideration, rationally and systematically, the capabilities and contributions of agencies, organizations and systems (both educational and non-educational) which are essential to the effective delivery of educational service.

Framework for Vo-Ed. Vocational educators are involved in planning programs with a mission part of which is stated in Federal and State legislation and regulations. The mission specifies the organization's reason for existence, describes the general services and functions to be performed, and defines the limits of its jurisdiction and authority. The mission remains more or less fixed unless changed by law or other official action.

The mission of the Federal Government relative to vocational education is to help provide throughout the Nation readily accessible programs of vocational and technical education for persons of all ages in all communities at all levels, which will enable these persons to enter and advance in the Nation's labor force.

Goals are established by the vocational leaders in each State. A goal is a long-range, specific statement of intended accomplishment toward which programs are directed. It may be as ambitious or idealistic as good judgment dictates, but it must be consistent with the mission. A time is not fixed for its achievement. A goal should be stated in terms of completely overcoming an educational problem or reducing it to the extent which the state of the art permits. A goal is not stated in terms of the current availability of resources, although it must depend upon the current state of knowledge. Broad goals will be set by local, State and Federal agencies responsible for overall comprehensive planning.

Operating agencies and organizations with comprehensive plans must define specific operational education objectives annually which are appropriate to their respective mission and goals; these objectives must be measurable and consistent with the intended goal.

The mission, goal and objectives must be comprehensive in terms of geographic and population coverage. In addition, the plans should represent activities for all agencies involved in mitigating the various occupational education deficiencies. Plans which state educational problems, their causes and related factors should also contain educational objectives quantified in terms of expected outcomes in a specified time.

Many Agencies Involved. These projected activities or plans of action are the heart of comprehensive educational planning. They constitute the blueprint for action, the commitment to do something calculated to help attain the desired educational status. Plans of action cannot be limited to classical educational activity but must encompass activities of other agencies which have responsibilities and authority for certain educational program areas. Some examples are socioeconomic conditions, health, housing, working conditions, and work opportunities. All are factors which may adversely affect educational status, but none are within the direct purview of regular educational agencies.

Thus, comprehensive vocational planning must consider plans of action to be carried out by agencies which are not educational but whose functions affect the educational environment. Systematic analysis is necessary to identify problems, measure results and provide alternatives.

Problem identification is of critical importance in order that individuals providing analysis may develop social and occupational sensitivity; it is on this critical point that educators might lose control to technicians acquainted with program budgeting and systems methods. Care must be exercised in communicating meaningful and correct data which describe realistic alternative procedures as a result of analysis.

Tool for Decision-Makers. Maintaining and expanding a program of public vocational education depends greatly upon the proper utilization of reliable data and the sophisticated analysis of these data by decision-makers.

Considerable evidence shows that too narrow a focus on the immediate present and too much reliance on the past structure of administration and operation restrict the utilization of data and limit imaginative assumptions too early in the formulation of many plans. We do not know what structural changes will occur in administration or what resources will be devoted by the several levels of government to vocational education. Therefore, the focus should be on what needs to be done for people who will fill occupational roles. We must focus on what is right and not worry so much about who is right.

Modern management demands that alternatives be prepared and accompanied by both real and hypothetical results, both desirable and undesirable. Otherwise, a course of action may be relatively meaningless. Action taken on this basis creates an image of the reliability of the organization or of the individuals taking the action. Whether recognized or not, action is taken on the continuum of uncertainty and, most appropriately, from the position of certainty. The role of planning is to strengthen the hand of decision-makers.

Program Evaluation. The planning process is obviously not complete without a specific plan for evaluation. Program evaluation is a process of determining the extent to which specific objectives and predetermined levels of operation were attained. Management uses program evaluation to insure that intentions are actually realized and that desired effects are achieved. The basic responsibility of evaluation is the appraisal of services in terms of their impact on the problems of the people that vocational education is intended to serve.

The evaluation process is essential. Without it, no plan of action can be valid and reasonably expected to be carried out successfully. Evaluation is thus used in all phases of program planning and program operation. It represents a feedback mechanism that consistently provides information necessary for the appraisal and correction at every phase of the operational process. It reduces the gap between foresight and hindsight.

One thing is certain, change will come whether planned or not. But the piecemeal approach of the past will no longer provide the kinds of solutions schools need today. There must be a clear idea of the ultimate outcome of all programs in vocational education, and the sequence of events must be mapped with the utmost care and precision.

Pennsylvania Approach to State-Local Program Planning

Vocational-Technical and Continuing Education in Pennsylvania: A Systems Approach to State-Local Program Planning. Walter M. Arnold. Pennsylvania Department of Public Instruction. 1969.

This study was conducted for the purpose of analyzing the vocational, technical and continuing education programs in Pennsylvania since the passage of the Vocational Education Act of 1963 in order to initiate a systematic planning effort in manpower development for the State. Thirteen goals, approved by the Pennsylvania State Board of Education, provided the guidelines for the study, which attempted to develop an overview of the achievements and deficiencies of the programs during the past five years.

Section I of this report presents an analysis of enrollments and expenditures in vocational-technical and continuing education from 1964 through 1968. An appraisal is also made of the current direction which programs are taking in the light of projected manpower needs in Pennsylvania. It is noted that technical education and health occupations education have the lowest enrollments despite the acute shortages of manpower in these fields. Although expenditures for vocational education in Pennsylvania have increased, they are still small in comparison to total expenditures for secondary education in the State. This is particularly true when the unmet trained manpower needs of the State are considered.

Section II analyzes and describes economic and projected trends of the Pennsylvania economy for the purpose of studying these trends and planning programs of vocational, technical and adult education. Nine principal occupational training agencies and programs are identified and described in order to study the supply of occupationally trained persons from these programs. Suggestions are given for improving the efficiency of these agencies and programs in supplying occupational education program graduates.

A systems approach to program planning is explained and described in Section III. The purpose of the system is to provide a method of making decisions regarding selection of a program from various alternatives. The need for systematic planning has been demonstrated by the haphazard way in which such choices have been made in the past.

In developing its systems approach, the study took into account the following factors: (a) existing vocational education programs; (b) supply and demand for trained persons; (c) existing socioeconomic conditions and trends, and (d) available funds and resources. Recommendations for State organization and administration needed for implementation of such a system are made, with the State Board of Education suggested as the coordinating agency.

Section IV notes that existing Pennsylvania financial aid policies and procedures "do not permit management of funds in the best interests of meeting critical needs and demands and . . . are not consistent with the requirements of the Vocational Education Amendments of 1968." Considerations which should be taken into account in formulating future policies and procedures are presented. Approaches which tie together planning steps and financial aid policies and procedures are also suggested.

Ancillary services and activities during the past five years, particularly in the areas of teacher education and certification and vocational guidance services, are reviewed in Section V. New certification requirements which will permit certification of a person who does not hold a degree, providing certain other requirements are met, are described. It is hoped that these new regulations will assist in eliminating the shortage of certified teachers in vocational education, especially in fields such as ornamental horticulture and institutional food service where experience is often a better teacher than formal schooling.

An account of five special studies (large cities, special socioeconomic needs, a follow-up system of graduates, an employer survey, and an administrator survey) is presented in Section VI.

Section VII synthesizes and summarizes the conclusions and recommendations of the study. Program expansion which is needed to bring the annual supply of trained manpower more nearly in line with future demands is outlined. Deficiencies in the Pennsylvania program which are noted include the lack of post-secondary programs and part-time adult vocational-technical programs. Greater attention is needed in the area of helping persons with special needs, such as the socioeconomically handicapped, particularly in the Appalachian counties.

Oregon PPBS Institute

The Oregon Planning-Programming-Budgeting-Systems Institute. Harold V. McAbee. Teaching Research Division, Oregon State System of Higher Education. Monmouth, Ore. Dec. 31, 1968.

The U.S. Office of Education, Bureau of Research, financed this Institute, which was held in August 1968. The object was to bring together selected State and local vocational education administrators to discuss the need for Planning Programming Budgeting Systems (PPBS). The Institute provided an opportunity for establishing broad professional contacts and promoting a partnership with respect to Federal, State and local relationships. It helped to acquaint participants with available PPBS development resources, and it served as an arena for collection of PPBS materials.

The program was geared to the beginner in the PPBS field. The role of PPBS in solving vocational education's administrative problems was the keynote of opening sessions, while final sessions were directed toward planning which would be necessary when participants returned to their local areas.

As described in the introduction to the Institute report, "PPB is a systems approach to educational budgeting, management and control." Its primary contribution to educational organizations is that of committing

group planning toward goals. Planning is done several years in advance, thereby enabling costs to be planned on a correspondingly long-range basis.

The first major address was made by Keith Goldhammer, dean, College of Education, Oregon State University. He emphasized the need to use available knowledge and data for improving professional administrative practices, and he defined the administrator's role as one of being "the goal setter, the data collector, interpreter and relater to decision-making." He pointed out five major functions of research with respect to decisionmaking: (a) definition and collection of adequate data, (b) ordering the data and estimating its validity, (c) starting a storage and retrieval system; (d) defining critical utilization of data, and (e) applying theory and data to practice. Dr. Goldhammer concluded that PPBS could help in decisionmaking through this process.

Cecil Stanley, director, Division of Vocational-Technical Education, Nebraska, gave two presentations which helped to set the need for application of PPBS in the problems of state level administration and state-federal financial relations. Mr. Stanley enumerated many problems in these areas among which the following are typical: (a) how can multilevel programs be efficiently organized and articulated?, and (b) what is cooperative education and how can it best be organized?

Technical Aspects of PPBS

The technical aspects of PPBS were presented by Lavor Neuenswander, director, Financial Management and PPBS Training Institute, Bureau of Training, U.S. Civil Service Commission. According to Mr. Neuenswander, "PPBS does not make decisions for the decision-maker, but orders the data so that more effective allocation of scarce resources (decisions) can be made."

Detailed instruction in understanding and implementation of PPBS was given through various presentations. The first, by Gerald Gage, research professor, Teaching Research Division, Oregon State System of Higher Education, established guidelines for specifying valid objectives. "Developing the Program Memoranda, Terms and Definitions" was then given light by Harold McAbee, the Institute director. The need for definitive terminology was stressed, as was that for a "program memoranda," a broad-based document which states the purposes, objectives and description of programs and budgetary and analytical data.

A presentation by Otto Legg, senior program officer, Program Planning Division, Bureau of Vocational and Technical Education, U.S. Office of Education, delineated the status of PPBS with respect to the viewpoint of U.S.O.E. Pointing out that, with increased competition for government funds, vocational educators must develop more sophisticated means of convincing decisionmakers of the validity of educational requests, Dr. Legg suggested that "broad planning should also include non-education agencies and resources."

Basic Economic Principles

Basic economic and statistical principles in PPBS were explained by William Freithaler, Department of Economics, University of Virginia, along with presentations on cost effectiveness and cost benefit analysis. Economic concepts, such as the Phillips Curve Concept, the law of supply and demand, the law of diminishing returns, marginal analysis, indifference curves, regression analysis, theory of discounting, dealing with uncertainties, and macro vs. micro economic theory, were illustrated as they apply to vocational education.

Another presentation on cost analysis, "Planning Cost Analysis of a Training Program," was made by Dr. McAbee. Values which he noted must be computed in such analysis are: (a) value of increased income; (b) value of increased productivity; (c) spillover benefits such as decreased welfare and crime rates, and increased health status, and (d) value of residual educability. He also presented information related to "Budget Cycles, Formats, and Crosswalks."

OEO Case Study Discussed

A case study prepared for the Office of Economic Opportunity by Glen G. Cain was discussed. The study, "Benefit-Cost Estimates for Job Corps and Implications for State Level Vocational Education," illustrated several difficulties which can be encountered in first attempts at cost-benefit analysis: lack of valid data, lack of precedent in use of the cost-benefit approach, problems in use of the real resource approach, and credibility and acceptance.

In his presentation entitled "Levels and Types of Analyses," James V. De Long, an analyst for the Program Evaluation Staff of the Bureau of the Budget, Washington, D.C., outlined seven levels or types of analyses: (a) cost benefit analysis; (b) cost effectiveness analysis; (c) direct cost per unit of output; (d) cardinal weighting of advantages and disadvantages of the program; (e) ordinal weighting or ranking of alternatives; (f) simple qualitative rationale for the recommendations, and (g) simple statement as to why or how the decisions were reached. He also spoke on the "Role of the Budget Examiner and Analyzing Needs."

Budget-Making Realities

Political aspects of the budgetary process were discussed late in the Institute. Angus Rothwell, executive director, Educational Coordinating Council, State of Wisconsin, spoke on "Political Realities of the Budget-Making Process." He illustrated his talk with a thorough outline of the educational decisionmaking process in Wisconsin and its connection with politics.

Oregon State Senator Lynn Newbry, speaking on the topic "A Legislator Looks at Educational Requests," revealed his personal ideas about priorities for allocation of funds, and he noted that "educators could help if they would establish some inhouse priorities."

Broadcasters Offer Grants

Grants for research into social, cultural, political and economic aspects of American commercial broadcasting are being offered by the National Association of Broadcasters. Application forms, due by Dec. 1, 1969, may be obtained from John Dimling, Jr., vice president for research, National Association of Broadcasters, 1771 N St., N.W., Washington, D.C. 20036.

Oregon Budget Director Cleigh Penwell offered his views in a talk entitled "The Governor's Office Looks at PPBS and Education Requests."

Conclusion of the Institute included a lesson in PERTing implementation of PPBS programs for use when Institute participants returned home.

Dr. McAbee summarized the conference with a presentation on "Skepticism and Limitations of PPBS." Answers were offered for anticipated points of skepticism, such as claims of a lack of personnel to do the new job and the view that "It's the same old thing in a new package."

An evaluation of the Institute was made by Frank Nelson, assistant research professor, Evaluation Unit, Teaching Research Division, Oregon State System of Higher Education. One of his observations was that "an apparent positive shift in attitude toward PPB was evident in the comments made by the participants."

According to an evaluation survey, many participants said that the small group sessions were a most valuable part of the institute; in many cases they were considered to be more beneficial than the large presentations.

The Institute resulted in the accumulation of numerous PPBS curriculum materials, which are listed in a bibliography included in the appendices of the report.

Topic Two: PROGRAM PLANNING

See Bibliography for Information on availability of complete studies

Vo-Tec Education in 1970s

Vocational-Technical Education in the 1970's. Final Report. National Planning Association, Washington, D.C. 1970.

The Vocational Education Amendments of 1968 encourage administrators of vocational education programs to link the needs and interests of the student to reasonable expectations of future manpower demand. The current State Planning Guide for federal funding applications provides a format for reporting manpower demand by particular occupations and for describing the population served within political subdivisions of the state. A problem for the educator is the lack of a frame of reference in the form of a clear map of the larger picture of future manpower demand. Some help will soon be available in the form of a study just completed for the U. S. Office of Education by the National Planning Association.

This study analyzes the Nation's goals and the implications of pursuit of these goals for planning vocational-technical education programs. Just as a young married couple might decide priorities and the timing of family purchases or expenditures for a home, a car and medical care, so also does the Nation have options for either "more of the same" or enlarged purposes for objectives in education, health, urban development, or transportation.

In the N.P.A. study, manpower demand for 80 major occupations related to the pursuit of some of our national goals is translated into projected annual job openings in the next decade. Opportunities for workers are then compared with the number of 1967 completions from vocational-technical programs operating under federal funding. Worker demand increase in some occupations is in the 100-150 percent range, and implies marked expansion in relevant vocational-technical programs. New and developing occupations are reviewed and the potential growth of job opportunities for nonwhites is examined.

The final report of the National Planning Association, *Vocational-Technical Education in the 1970's,* together with six working papers dealing with occupations in health, education, social welfare, science and technology, construction, and transportation will be published by the Government Printing Office in early 1970.

Programs in Tech Education

National Program Development Institutes in Technical Education. Aaron J. Miller. The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. April 30, 1969.

Two-week National Institutes were held in the summer of 1968 at the University of Michigan, Ann Arbor, and at James Connally Technical Institute, Texas A&M University, Waco. The 89 participants included new state supervisors and assistant supervisors of technical education, junior-community college and technical institute senior administrators, deans and assistant deans, new and inexperienced technical education teacher educators, and local-level technical education supervisors where large administrative units are involved.

The need for such institutes was demonstrated by the lack of qualified personnel for assuming positions of administrative leadership in technical education at all levels of government. The Institutes provided participants with basic theoretical and philosophical concepts related to program development and operation.

The objectives set for the Institutes were:

- To provide a vehicle for development and improvement of a philosophy of technical education.
- To acquaint participants with resources for developing programs and methods for their use.
- To provide inservice training for personnel who are relatively experienced in the field of technical education leadership, so as to enable them to better understand the method of planned development of leadership personnel.
- To provide an exemplary institute program as a model for institutes within the states.

Trips Stimulate Discussion

The Institutes included activities such as lectures or formal presentations by resource persons, group discussions, individual preparation and participation in special interest group activities, and library study. In addition, each Institute scheduled a field trip to a nearby technical education institution or industrial laboratory. The purpose of the field trip was to stimulate discussion of institute participants. Instructional materials distributed to each participant included

monographs, research reports, reprints, government publications, illustrations, and other appropriate reference materials.

Topics covered by the program included "The Rationale and Need for Technical Education," "Administrative Structures for Technical Education Institutions," "Staffing Technical Education Programs," "Facilities and Equipment for Technical Education Programming," and "National, State and Local Resources for Program Support."

Evaluation instruments were designed to measure achievement in knowledge gained from the Institutes, plans to utilize this knowledge, and satisfaction with the content and methods of the Institutes. These instruments included a participant's self-appraisal questionnaire, which was administered both before and after participation.

Evaluation of the various presentations was also made. Steps were taken to measure the participants' professional objectives, and information will be used in follow-up activities to determine participants' progress toward their professional goals. The application form which prospective participants had filled out prior to being accepted for the Institutes also provided useful information in evaluating the overall success of the Institutes.

Post-Institute Evaluation

The post-institute evaluation included identification of program innovations and curriculum development projects which might have grown out of institute participation. Plans for future follow-up, including a study of the effectiveness of the Institutes in stimulating activities and interests in technical education, were made. Follow-up would also study "ripple effect" of the Institutes, in which trainees from the Institutes would begin programs in their states, and the effectiveness of The Center for Vocational and Technical Education in its role as consortium coordinator.

Other follow-up activities include surveys of trainees' personal development and host institutions' development which can be traced to Institute stimulation.

Conclusions which developed regarding the Institutes included the opinion that the geographical mix of participants was valuable in exchanging technical education information. It was also noted that the professional and institutional mixture of participants was valuable. The participants expressed general approval of the content and conduct of the Institute programs, and they evidenced some intent to implement positive program changes when they returned to their states. Evaluation also revealed the fact that the consortium approach (with The Center as coordinating agency) was very successful in planning, developing, implementing, and evaluating.

Recommendations for future institutes include that of making a study to determine methods for attracting participants from new and developing institutions. It was also recommended that the consortium approach be continued and that leadership and program development training be continued with assistance from Federal funds and national advisory services.

Experimental Community College for Rural and Urban Youth

A Feasibility and Planning Study for an Experimental, Two-Year Community College for Rural and Urban Youth. John Felty. State University College of Arts and Science, Plattsburgh, N.Y. May 1969.

Obtaining public reaction to the idea of establishing a residential two-year community college in an urban setting for both urban and rural youth was the object of this project. The philosophy behind the establishment of a college of this nature was that (a) large numbers of rural residents are migrating to the cities due to the lack of industrial and business work opportunities in rural areas, and (b) the lack of these opportunities is because industry and business are averse to settling in areas where there is a shortage of trained labor and an absence of social and cultural offerings.

Rural areas were found to have an abundance of land area suitable for construction of facilities for a residential college, but insufficient finances for doing so, and not enough college-age population to make it worthwhile. Cities, on the other hand, were found to have more college applicants than can be accommodated and enough funds to finance the construction of new institutions, but lack of land area adequate for the facilities required by a residential institution.

The study was made from June 1966 through September 1967. Surveys were conducted with students, local citizenry and community leaders, and covered five issues of concern: (a) social acceptability, (b) types of programs, (c) conditions of attendance, (d) financing, and (e) demographic, situational and historical variations among subgroups.

Questions which the study was planned to answer related to:

1. Identification of variations of groups in the area in order to be better able to interpret other information received.
2. Determination of minimum probable attendance at the institution and the amount of support available from the rural community.
3. Types of programs of interest to students.
4. Attitudes toward having an interracial school in a rural community.
5. Estimation of costs and possible sources of financing.

In response to questions regarding programs in which students would be interested (a choice was given of liberal arts courses, preprofessional transfer courses, or vocational-technical terminal courses), the largest percentage (40 percent) favored vocational-technical courses. Courses chosen by the students as ones which they would most like included in the vocational-technical curriculum of the proposed college included secretarial and nurses training for female respondents and business administration and technical skill courses for males. Approximately 60 percent of the adults interviewed in the rural area replied that they would be interested in adult education courses in either liberal arts or business-commercial fields.

It was concluded that a sizeable demand existed for the services offered by a community college, and that a large percentage of those who would attend would prefer vocation-

al-technical courses. It was recommended, however, that students who had the potential for completing a liberal arts transfer course be encouraged to enroll in one of these rather than in vocational-technical courses. It was also suggested that the first year of studies for all students include the maximum amount of general academic work possible.

An experimental program (one year preparatory) of enrolling high-risk students who lack preparation for higher education was proposed. Surveys had indicated that 50 percent or more of the New York high school students would need such assistance in order to do minimal college-level work.

As a result of the surveys, it was recommended that the college begin by offering liberal arts and business courses, and then, when feasible, expand into nursing, engineering and drafting. These same course offerings should be made available in evenings to area adults through coordination of regular staff and facilities.

A summary of the findings indicates that the experimental college idea is a workable one with many potential benefits both to the urban and rural students and to the area in which the college would be located. The high per-student cost which would be required by such an institution, however, could not be supported by the local community, and would necessitate funding from other sources.

Developmental outlines for establishment of a school are presented. It was suggested regardless of the data of this study, and its difference from that of other communities, that the experimental two-year community college idea would be workable in other areas where a rural setting could be offered for education of big-city youth.

Appendices to the study, which are presented in a separate volume, include data procured in the course of the study and samples of questionnaires and evaluative instruments.

Manpower Surveys for Vo-Tec Educational Planning

Conference on Manpower Surveys for Vocational-Technical Education Planning. David Pinsky. The University of Connecticut, Labor Education Center, Storrs, Conn. Jan. 31, 1969.

Eighty-six representatives of vocational education, employment services, labor departments and community colleges of 39 states attended this conference, July 8-12, 1968, at the University of Connecticut. The conference brought together personnel to develop an understanding of cooperative planning and techniques needed to conduct manpower surveys and how to use the findings.

Three manpower information lectures were presented on the first day of the conference.

Raymond F. Male, commissioner of Labor, State of New Jersey, prefaced his talk by noting that in British Columbia the departments of labor and education are combined under one commissioner—a result of the manpower needs of the twentieth century. Ending the separateness of these two functions, he said, requires thinking and communicating together as well as programing together. These tasks require the availability of manpower information in order to be worthwhile and reliable.

Byrl Shoemaker, director, Division of Vocational Education, State of Ohio, spoke of the need for manpower information which can be translated into training requirements for vocational education. He stressed the need for using broad occupational categories in manpower information and for identifying the geographical areas in which the majority of employment is available, so that training can be concentrated toward the most beneficial occupational and geographical areas.

Emanuel Weinstein, manpower development specialist, U.S. Office of Education, emphasized the imperative need for a continuous supply of accurate data for vocational and technical educators if present and future training and retraining needs are to be met. Development of new tools for gathering this information is one of the great needs of today.

One such tool which he mentions is *Vocational Education and Occupations,* the joint publication of USOE and the Manpower Administration (reviewed in this issue of RV). Mr. Weinstein sees this work as a means to "relate data on enrollments and completions to manpower trends and requirements. Using the data collected, it may become quite possible to adjust the 'output' of vocational education institutions as occupational needs vary."

Manpower Data Available for Vo-Ed

Successive lectures treated the "Availability of Manpower Data for Vocational-Technical Education." There were three lectures on national sources of availability for this data. David Lafayette, assistant director, Branch of Skilled Manpower and Industry Studies, U.S. Bureau of Labor Statistics, sees the Bureau becoming more involved in local manpower projections than before. An initial effort is the guidebook, *Tomorrow's Manpower Needs* (see September 1969 RV), which provides techniques for using national manpower projections to prepare state and local projections.

In discussing restraints existent in this attempt to develop projection techniques, the speaker noted both environmental and philosophical restraints. The reliability of occupational projections is without precision; however, the need for timely data is greater than that for exact data when projecting needs.

Vladimir Chavrid, research director, U.S. Employment Service, noted the lack of funds for development of information on manpower. He mentioned the development of a handbook for making State occupational manpower projections and for estimating the number of openings which will occur due to deaths and retirements. The need to balance demand and supply of trained people in each occupation was emphasized. In some areas, he noted, more people are being trained than estimates show will be needed.

Murray Weitzman, assistant chief, Population Division, U.S. Bureau of the Census, discussed "Plans for the Industry, Occupation, and Class of Worker Items in the 1970 Census of Population." Changes in questions for the 1970 census include the addition of two questions related to the original question, "What kind of work was he doing?" The census will now determine activities and duties connected with the job, and the job title. Categories will be expanded for purposes of worker classification; for example, the category of government will be split into Federal, State and local workers.

A new question will be asked regarding the completion of a vocational training program. Answers to this question, it is hoped, will assist officials in determining areas in which there is a market for vocational programs and the location of future training facilities. This question will also provide a basis for estimating the financial return from the investment in vocational training through investigation of the incomes of those who have (or have not) completed such programs.

State and Local Sources

Four lectures treated State and local sources for manpower data for vocational-technical education.

Alfred Horowitz, research and information director, Connecticut Labor Department, reflected vocational educators' attitudes that they do not have sufficient information on which to base reasonable decisions. He proposed an investigation of information which is existent and the ways in which it can be used. Two sources of data are (a) local labor sources (unemployment insurance studies and continuing wage and benefit history data), and (b) reworked national data, such as the census or *Tomorrow's Manpower Needs,* adapted to the local level.

David Pinsky, professor of labor education, University of Connecticut, cited studies of the Labor Education Center at the University regarding prospective manpower requirements. These studies investigated health manpower occupations, printing trades occupations, the Connecticut Valley tobacco industry, and new metalworking techniques as related to Connecticut manpower. The health manpower occupations study was outlined in detail to illustrate use of data for manpower projections.

G. W. Neubauer, director of program services, Florida Department of Education, questioned the process by which the prospective occupational trainee secures "demand" information of the labor market. Data are available from the Employment Services of the States; however, the facts as such are not in usable form and a lack of funds precludes translation into functional, easily interpreted information.

Dr. Neubauer described an Industry Services Unit now being developed in the State of Florida which will investigate the manpower climate in various areas of the State for the purpose of informing new industries of the most desirable locations for adequate manpower. Hopefully, this information will also be beneficial for planning vocational education programs.

Daniel Creamer of the National Industrial Conference Board indicated private research sources of manpower data for vocational-technical education. He noted that private research organizations are not engaged, in any substantial way, in generating manpower data for vocational-technical education. However, general manpower analysis and manpower projections which are being made in private industry, some of them by the National Industrial Conference Board itself, can be of use in planning vocational-technical education.

Utilization of Manpower Data

Four lectures were presented on Utilization and Effectiveness of Manpower Data.

Harold Duis, service program officer, U. S. Office of Education, agreed with other speakers in noting that more information is needed for program planning. Although noting that cooperation between agencies within States is improving, problems still exist which hinder the collection of the necessary data.

John Odgers, director of guidance and testing, Ohio Department of Education, enumerated five guidance responsibilities of the counselor in assisting counselees: (a) achieve a useful level of self-insight; (b) achieve a workable understanding of environmental opportunities and demands; (c) make the wisest possible educational and vocational choices and plans; (d) initiate action on the plans he has developed and (e) assume the responsibility for his own decisionmaking. These responsibilities demand use of up-to-date manpower information, and development of this information demands significant financial investment.

Richard W. Howes, assistant director, Division of Vocational Education, Connecticut Department of Education, discussed utilization of occupational studies with legislative bodies. These studies are used in projecting new and expanded building needs for presentation to the legislature. Facts regarding course or curriculum changes, operating budgets, equipment, and teacher needs are also obtained from these studies, or substantiated with facts from them. Graduate follow-up studies are also an important source of data, as percentages of vocational education course graduates who are placed in employment are good gauges of success of programs.

Carl A. Heinz, chief, Division of Occupational Analysis and Career Information, U.S. Employment Service, stressed the importance of full utilization of the *Dictionary of Occupational Titles.* He believes that knowledge of occupations gained through this volume can be extended to vocational education courses.

Coordination of Collection Efforts

Coordination among agencies in obtaining manpower data was discussed by four lecturers.

The coordination role of the State Department of Education was described by Herbert Righthand, chief, Bureau of Vocational Services, Connecticut State Department of Education. Recognizing that the department is "chiefly a consumer rather than a producer of data," Mr. Righthand indicated two aspects where coordination is necessary: coordination of agencies and coordination of data.

Francis Woods, manpower coordinator, Division of Manpower Development and Training, State of Connecticut, described the Cooperative Area Manpower System (CAMPS) and its role in coordination for obtaining manpower data. Although many problems beset the CAMPS program—among them lack of time, staff and interdepartmental communication—CAMPS is recognized as an attempt in the right direction and has a definite role to serve.

Edward B. Jakubauskas, professor of economics and director, Industrial Relations Center, Iowa State University, posed three questions to which the collection of manpower data and its utilization must address itself: (a) for what jobs do we train people, and in what ways do we establish priorities among competing shortage areas?; (b) how do we predict the capability of a worker for training and suitability for a particular occu-

pation?; and, (c) how can we match people and jobs most effectively?

Answers to these questions require better manpower data; obtaining better manpower data requires more effective coordination between the academic community and governmental agencies.

Harold Duis lectured on coordination at the federal level. Although he admitted that "coordination at the national level has not been highly effective," he mentioned that some efforts have met with some success. One of these efforts is the formation of a joint liaison committee between the Office of Education and the Bureau of Employment Security, which has been in operation since 1964. Other efforts are the CAMPS program and a joint committee which USOE has with the Department of Agriculture for cooperation in agriculture and home economics.

Data for Special Needs

There were three lectures on "Manpower Information To Meet Special Needs."

Herbert D. Brum, state supervisor, Disadvantaged Youth and Work Studies Program, Ohio Department of Education, presented information related to disadvantaged youth. There is a lack of information regarding disadvantaged youth, those with "special needs," and teacher personnel. Because the disadvantaged often feel that their first jobs are their lifetime careers, Mr. Brum believes that, "We, in developing our manpower information with regard to jobs and employment, perhaps, ought to give more attention to showing the interrelationship of various jobs and employment patterns, and how experience and skill in one particular area can lead to other areas."

Earl Klein, director, Human Resources Development Section, U.S. Employment Service, discussed many programs to educate and assist the disadvantaged to get jobs and keep them. He described a service of the Employment Service called the Human Resources Development Employability Model, which uses an individualized approach.

Howard Matthews, director, Manpower Development and Training Division, U.S. Office of Education, called for more educational programs of high quality, those with "adequate resources, well-trained teachers, suitable buildings, and appropriate curricula and educational methods." Cooperation between all levels of government, private employers, and trade and labor associations is needed.

At workshops, the participants discussed the adequacy of manpower information. They agreed that it was inadequate and offered ways to increase the utility of available data. They also felt that planners should keep abreast of changes in the occupational structure to enable trainees to be placed in jobs upon the completion of their training.

Recommendations made by conference participants were forwarded to the U.S. Office of Education and to other appropriate agencies. Among these recommendations are one which would establish better means of communication between State agencies for improved planning of vocational programs, and others which would aid in disseminating new information.

Balanced Programs in D.E.

Workshop on Planning, Implementing, and Evaluating Balanced Programs in Distributive Education. Gary R. Smith. Department of Business Education, Utah State University, Logan, Utah. May 1969.

Thirty-eight State and local distributive education supervisors from across the nation participated in this two-week workshop designed to allow participants to:

1. Develop an understanding and appreciation for systematic planning and programing techniques.
2. Develop an understanding of the social and economic problems facing vocational education.
3. Become acquainted with types of base line data needed to develop balanced programs.
4. Develop an understanding of the scope of the distributive education program including pre-high school services and interdisciplinary approaches to vocational education.
5. Develop a model for use in program development and evaluation.

Workshop participants developed a model for use in distributive education PPB, and they were encouraged to implement aspects of PPB in their states, in both distributive education and other areas of vocational education.

An introduction to PPB from several consultants who gave presentations covering the seven major areas of program planning, and opportunities to use this information by solving a problem centered around an imaginary state called "Transylvania," were offered the participants. A test given before and after the workshop provided the basis for evaluation regarding the amount of knowledge gained by participants during the workshop, and it also aided consultants in helping individual personnel.

The purpose of the workshop and a short introduction to PPBS were presented by Vernon Buehler, associate professor in business administration at Utah State University. Joseph McGivney, principal investigator, National Development Institute in Planning, Programming and Budgeting Systems, gave an overview and history of PPBS. Also discussed by John Stephens was the role of ERIC Clearinghouses in relation to vocational education.

Results of pretests and post-tests performed of workshop participants provided information for conclusions concerning achievement of the original objectives set for the workshop. It was determined that participants did develop a greater understanding of PPBS as a result of the workshop, and that an understanding of the social and economic problems facing vocational education was also developed. An acquaintance with base line data necessary for development of balanced DE programs was acquired, together with an understanding of the scope of distributive education. A model for use in program development and evaluation was developed by participants, with expectation that participants would be able to assist in implementing PPBS in their states and communities.

Recommendations reflected interest in follow-up conferences on utilization of PPB techniques and provision for dissemination of workshop information. A valuable bibliography and glossary are included.

DECEMBER ISSUE . . The subjects next month will be "Vocational Guidance and New Careers." See this issue for reports on studies dealing with this timely topic.

See Bibliography for Information on availability of complete studies

Effect of Area Vocational-Technical Schools in Minnesota

Vocational-Technical Education 1968: A Summary Report of a Study of the Effect of the Area Vocational-Technical Schools in the State of Minnesota. July 1968.

This study, begun Aug. 14, 1967, was conducted to determine present and projected employment requirements in Minnesota, and the relationship of various factors regarding vocational-technical schools to these requirements.

Factors such as the geographic distribution of area vocational-technical schools within the State, and the distribution of these schools in regard to population were investigated. How facilities of these schools are utilized, the present and projected enrollment of students and projected faculty requirements were considered. In addition, the study surveyed projected costs of adequate buildings, equipment and maintenance, and staff needs and qualifications. The study also attempted to determine the optimum size of the vocational-technical schools of the future.

Because of time and personnel limitations the study was limited to public post-secondary vocational-technical schools, with little attention given to high school vocational education or adult programs, even though the potential of these programs was recognized.

State Goals for Vo-Ed

The history of Minnesota's vocational-technical education program and the mission and goals of vocational education in the State are reviewed in the report. As presented in the report, these goals are:

1. Pre-employment education for high school and post-high students.
2. Supplementary education necessary for advancement.
3. Retraining for adults with obsolescent skills.
4. Updating occupational skills, or preparation for entry into a new occupation, for those re-entering the labor market.
5. Opportunities for individuals to pursue vocations suited to their potential capabilities while meeting the needs of trades, business, industry, and agriculture.

In surveying the role of the post-secondary vocational technical institution, the study underlines the fact that high school vocational programs today are no longer terminal for most American youths. The study asserts that high school programs should reflect this change by alterations in curriculum which would prepare students for post-secondary programs rather than preparing them exclusively in specific job skills. The statement—"Basic principles of applied science would be of more use than lathe operation to a student who would like to continue his education"—reflects the outlook which the report assumes.

Skills required by jobs in this day of rapid change are quickly outmoded. For this reason the study suggests that "post-secondary vocational and technical schools are going to have to adapt to continuing education programs in the technical fields." Education will become a continuing facet of a career in the near future.

A study of occupational information and employment needs demonstrates the sweeping changes which will occur in the labor force by 1975. The occupational group consisting of managers, officials and proprietors is expected to experience a sharp leap in numbers, a total of 29 percent between 1960 and 1975. The occupational group which will become the largest by 1975 is that of clerical and kindred workers, expected to grow 41.7 percent in the 15-year period. Salesworkers as well as craftsmen, foremen and kindred workers will also increase.

Automation will probably hit the semiskilled operatives group, although an increase of 15.3 percent in their numbers is expected. This group is expected to drop from first place in the number of persons employed in nonagricultural occupations, to third place. Service workers will increase greatly as the standard of living increases and people can afford to buy more services. Laborers will continue to decline due to mechanical innovations.

In outlining a comprehensive vocational program, the study notes that "effective educational management in the future will require the identification of the inputs, processes and outputs of the educational system." These data can be compiled into useful form through the use of data processing equipment which will store them for quick retrieval and investigation of the educational process to identify strengths and weaknesses.

Persons With Special Needs

Implementation of new services and training programs for persons with special needs is recommended in the report. Included among these services should be well-trained instructors, specially selected and sized groups, and motivation, personal development, placement and follow-up services. In addition, programs for those with special needs may have to employ one or more of the supportive services listed in the report:

- Remedial education for children deficient in basic learning skills.
- Encouragement of discouraged or under-motivated persons.
- Adult education.
- Prevocational orientation.
- Training in entry-level skills for persons whose basic educational skills are too limited to take advantage of advanced training.
- Subsidized on-the-job training.
- Training allowances or residential schools to permit persons to enter training programs while still having a means of subsistence.
- Work experiences for those who do not understand the discipline required by the work situation.
- Public service jobs for persons who cannot find employment in the job market.
- Other supportive services such as medical aid and child care.

One of the key elements in planning for the future of Minnesota's schools, according to the report, is a program of training and recruiting qualified teachers. New programs which give greater attention to the needs of the individual teacher's education include inservice education and special programs for teachers of special groups.

California Project To Prepare Educational Planners

Selected Publications of Operation PEP: A Statewide Project To Prepare Educational Planners for California.

"Network Based Management Procedures," written by Allen L. Buckner for Operation PEP. This monograph presents network-based management methods, techniques and procedures which can be used in educational planning, scheduling and controlling activities such as construction, curriculum planning, inservice training programs, and business operations. Management tools discussed include PERT (Planning Evaluation and Review Technique) and CPM (Critical Path Method). Emphasis is placed on "mission, function, task, and methods-means analyses."

The second chapter outlines the development of PERT/CPM network-based management methods, techniques and procedures. Advantages of using this approach are presented, along with a detailed explanation of the application of the approach. Discussion of appraising input requirements and of leveling and priority considerations is included.

Procedures for program control and considerations which must be made are the subject of the third chapter. Considerations, objectives, benefits, and implications of reports are presented. Use of a PERT/Cost technique for evaluation of program progress is delineated.

In the fourth chapter, other network-based management methods, techniques and procedures, including Line of Balance, Gantt Bar Charts, and Milestone Charts, and their implications for change are discussed. The fifth chapter seeks to establish relevant relations between network-based management methods, techniques and procedures and selected areas of system technology.

Appendices to the report include a glossary of terms associated with this technique, and a bibliography.

"Deriving and Specifying Performance Objectives for Education," by Donald R. Miller, director of Operation PEP. It is noted that "educational performance objectives must be made value sensitive and responsive to social change requirements." Social change requirements are determined through information from "social trends analyses," which seek to determine rates, degrees, directions, and types of change which are taking place. The requirements are set after an analysis is made of policy decisions, society's goals for education, needs of specific populations of the country, and the demands made for social services.

Four types of educational objectives which this report categorizes relate to policy, program, curriculum, and instruction. Problems associated with the derivation of performance objectives for education, including the complexity of social organization and conflicting values, philosophies, goals and policies, the organization of educational systems and educational agencies, the interdisciplinary nature of education as an evolving behavioral science, and communication, are discussed.

Specification of performance objectives through criteria established by Robert Mager in *Preparing Instructional Objectives* (Palo Alto, Calif.: Fearon Publishers 1962), and the components of well-formed objectives are presented. According to Miller, these components are:

- The desired and valued outcomes, results, ends, outputs, and/or end states to be achieved.
- The requisite performance conditions (requirements and specifications) which must be managed, met, and/or maintained in performance.
- The criteria which can be used to measure achievement, change and other performance factors.
- Descriptions of the course and/or methods of action to be taken.
- Motivational rationales which legitimize and justify the course and/or method of action to be taken and the expected outcomes to be achieved in terms of both the organization's and the performer's purposes and relevant social change requirements and societal benefits.

"A Manager's Guide to Objectives," prepared for Operation PEP by Larry Harty and Bruce Monroe of Insgroup, Inc. This publication, in workbook form, provides a "map" for deriving and structuring meaningful educational objectives to fit the needs of individual organizations. Problems relating to management of the objective-setting process, putting objectives into writing and analyzing these objectives, along with refining, clarifying and using objectives are attacked in the guide. An annotated bibliography of additional topics related to objectives is included in the summary of the guide.

Topic Four: FEDERAL-STATE PLANNING

See Bibliography for Information on availability of complete studies

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Vo-Ed and Occupations

Vocational Education and Occupations. U.S. Department of Health, Education, and Welfare, Office of Education and U.S. Department of Labor, Manpower Administration, Washington, D.C. July 1969.

Intended primarily as a tool for assisting State Boards of Vocational Education in completing certain sections of the State Plans, this document links vocational-technical education programs and occupations and provides a vehicle for evaluation, comparison and improvement of the results of occupational education. It contains realistic information regarding the relationship of occupational preparation programs and the occupations themselves, and it should be a useful tool for guidance counselors and teachers.

Part I lists and defines vocational-technical education instructional programs and their relation to titles and worker trait groups listed in the *Dictionary of Occupational Titles* (DOT).

The reverse approach is taken in Part II, where job titles from the *Dictionary* are related to correspond-

ing preparation programs. This part will assist counselors in determining instructional programs related to occupations which have been discussed and selected. In addition, it will make data for program planning more useful in that information on current and projected employment will be more specific and uniform.

The extent of manpower needs and the potential contribution of vocational education to the supply of manpower may be measured more accurately as a result of the coding system outlined in this document.

Program Planning & Evaluation

Selected Presentations from the National Conference on Program Planning and Evaluation. Washington, D.C. March 12-14, 1969.

In a presentation titled "Vocational Education: From a World of Stability to a World of Change," Grant Venn, associate commissioner for Adult, Vocational and Library Programs, U.S. Office of Education, outlined basic reasons for changes in planning and budgeting of vocational education and for developing a system acceptable both to future employers and to the total educational community.

He described seven areas of responsibility for vocational programs of the future: (a) occupational information programs for elementary and junior high school students and parents; (b) occupational orientation at the junior high school level; (c) cooperative work-experience programs for one-quarter of each school year; (d) offering instruction in occupational clusters as well as in specific job skills; (e) intensive training programs for youths who have not received any vocational training in high school and are suddenly faced with the necessity of earning a living; (f) adult retraining programs, and (g) job-placement programs in the high schools.

PPB from the point of view of the Department of Health, Education, and Welfare was treated by Alice Rivlin, assistant secretary for Planning and Evaluation, HEW. Experiences which the Department has had in the past two years in putting such a system into effect were discussed by this speaker.

Dale Chismore, Terminology Compatibility Branch, Division of Statistical Operations, National Center for Educational Statistics, discussed the third draft of Handbook VI, *Standard Terminology for Instruction in Local and State School Systems.* Dr. Chismore stated that a major purpose of the handbook is "to identify, classify and define items about curriculum and instruction useful to and needed by educators across the nation." He also discussed some of the specific needs which the handbook will fill.

William A. Medina, chief, Resources Coordination Division, Bureau of Training, U.S. Civil Service Commission, presented a paper on "Preparing Personnel for Planning, Programing and Budgeting." Mr. Medina discussed the development of training programs for PPB in the Federal government and some of the problems which were encountered in their development. He described the types of people who would benefit from such training programs and their instruction. Possibilities for having these training programs in each Department of the government and in State governments were presented.

John Beaumont, chief, Special Services, Division of Vocational and Technical Education, U.S. Office of Education, presented "Staffing the State Department To Meet the Needs of Vocational Education." Emphasizing that the changing role of State Divisions of Vocational and Technical Education requires major reorganizations of state staffs, he reviewed some of the roles which the staff will be called upon to fill.

Emmanuel Weinstein, occupational analyst, Division of Vocational and Technical Education, U.S. Office of Education, discussed the background and development of a taxonomy of occupational titles and instructional programs. Uses of the *Standard Industrial Classification Manual* and the *Dictionary of Occupational Titles* were presented.

Other presentations included "Educating the People Who Make the Decisions for Effectiveness in Meeting the Purposes of Vocational Education," by Rupert Evans, dean, College of Education, University of Illinois; "Applications of Program Budgeting to Local School Systems; With Implications for Program Planning, Budgeting and Evaluation at Local and State Levels," by Thomas G. Fox, Brookings Economic Policy Fellow with HEW; "Cost/Benefit—Cost/Effectiveness Studies," by Jacob Kaufman, director, Institute for Research on Human Resources, The Pennsylvania State University; and, "Local School Planning and Budgeting by Activity," by Allen R. Lichtenburger, chief, Terminology Compatibility Branch, Division of Statistical Operations, National Center for Statistics.

State Plan Development

Papers Presented at the National Conference on Methods and Strategies for State Plan Development in Accordance With the Provisions of the Vocational Education Amendments of 1968. Covington, Ky. March 24-27, 1969.

This conference, attended by 221 participants from all levels of government and from educational associations, was arranged for the purpose of interpreting the Vocational Education Amendments of 1968, and particularly the Rules and Regulations prepared by the U.S. Office of Education for the development of State Plans. The USOE *State Plan Guide* for the development of a State plan was also presented, discussed and clarified, as were several working papers pertaining to the design of State Plans. Five key problem areas were selected by the conference planners for working papers.

Walter Arnold, former director, Division of Vocational and Technical Education, U.S. Office of Education, presented a working paper, "Planning at the State Level—Long-Range and Annual." He listed the important specific requirements for planning in the Act and made comments on each of these. Factors that need to be identified before development of a program plan, and a systems approach to planning were discussed. The ultimate goal which Dr. Arnold foresees in use of the systems approach is the best use of funds in light of the needs of both the people and the employers of a State.

Cleveland L. Dennard, president, Washington Technical Institute, Washington, D.C., presented a paper titled "A Systems Approach to Vocational Technical Education Planning at the Local Level." Noting that

"new methods and strategies must now be at the disposal of local vo-ed decisionmakers for relevant community responsiveness," Dr. Dennard described the Washington Technical Institute systems approach and how it might be applied on the local level.

William G. Loomis, assistant superintendent for Community Colleges and Vocational Education, State Department of Education, Salem, Ore., presented a working paper on "The Role of Professional Vocational Education Personnel in State Program Planning and Evaluation." His approach to planning for change included a view of the strengths and weaknesses of state departments in relation to the job ahead and the place of vocational education in relation to the priorities of the total state educational plan. Plans for organizing for action and their application were submitted.

Rupert Evans, dean, College of Education, and professor of Vocational and Technical Education, University of Illinois, discussed "The Role of the State Advisory Council and Its Relation to the State Board for Vocational Education." After outlining the membership and duties of the advisory council, Dr. Evans presented procedures for planning and evaluation, and suggested that state advisory councils on vocational education may serve as models for other commissions which are appointed by governors.

Harold Starr, project director of State Program Evaluation, The Center for Vocational and Technical Education, The Ohio State University, Columbus, discussed "Methodologies for Conducting State Program Evaluation." In describing several evaluation methodologies, Dr. Starr suggested that a product-oriented methodology within the framework of a systems approach is the most valuable alternative. Major steps in organizing such a system were outlined.

The Conference was climaxed by a session in which the participants from the U.S. Office of Education related all topics that had been discussed to the subject of "Implementation of State Plan, Evaluation and Reports."

plain talk

George L. Brandon, Editor, Research Visibility

THE PERSISTENT THEME of comprehensive planning, the "tomorrow let's get organized" idea, has a strong, valid appeal to all educational planners. Basically, the struggle for good organization, effectiveness and efficiency is a solid American tenet of our society and its Government on all levels.

Generally the hallmark of educational professionals from classroom teacher to chief executive has traditionally been the degree to which he or she is organized and competent to surmount a system of inputs and products. Unfortunately as institutions become systems, we sometimes witness a preponderance of attention on *input,* and the educational products are either forgotten in the intriguing process, left to the expertise of the evaluators or, worse yet, assumed to be of the same mold and substance.

The parallel to the American assembly line is striking—and disastrous. With full consideration of all of the merits of comprehensive educational planning, and there are many, have we had an overly soft-sell of the systems approach and the model technique? At least one educational writer has us in an era of model mania:

> The idea of building a model that will produce predictable common results is a persuasive doctrine. It takes its roots, no doubt, from the ancient notions about molding minds, characters and civic behaviors. More recent support is found in the world of technology where molds can produce uniform products. In recent years impetus for such movements in education has come as well from the practice of model implantation by certain philanthropical foundations and government agencies.
>
> A gullible public lends encouragement by being willing to buy whatever new models are developed—even without proof that they will produce claimed results. When one model fails, the tactic is to turn to another. Deficient formulas and their advocates tend to be discredited but the model approach itself seems not to be questioned.
>
> In reality, a model tends to negate attention to individual differences. Its existence assumes that all learners will be fitted to the mold or vice versa. Those whose characteristics are too extreme for the model to be applicable simply get left out. Those who most nearly fit receive little individual attention either since dependence is placed on the power of the pattern. (Lindley J. Stiles in "Model Mania." Policy and Perspective. *Journal of Educational Research,* July-August, 1969. Madison, Wis.)

The model trap should be much more than a fleeting concern as the vocational education community accepts the new challenge of legislation and resources "so that persons of all ages in all communities of the State . . . will have ready access to vocational education." By all means, let's get organized—for individuals and individual differences!

And then there's comprehensive planning for the research program. *The Research Handbook for Vocational-Technical Education* has numerous guidelines for the shape of tomorrow's research effort. Researchers Hull, Frazier and Stevenson of the Oklahoma Research Coordinating Unit have assembled four sets of guiding principles in the publication, which is one of the first handbooks to come out of last winter's national conferences on vocational and technical education. The principles are backed up with a rich appendix of materials, procedures and examples, valuable adjuncts to any research program which is getting underway, or for that matter, any program which may have been underway for some time.

The *Handbook* (which includes a *model* for educational change) assumes a *functional* role for research—a function of program planning and development. Its 48 pages discuss research in vocational and technical education around a framework of (a) a legislative mandate, (b) State and local administration of research funds, (c) coordination and dissemi-

nation of findings, and (d) implications for national research and development.

Limited copies of the *Handbook* are obtainable from Michael Russo, Division of Vocational and Technical Education, U.S. Office of Education, Washington, D.C., 20202.

Good back-up for educational planning, "ERIC and Its Services." If you are already familiar with ERIC and its rich resources, there's a good, self-administered "test" to determine your ERIC IQ. The June, 1969, *Centergram* (Vol. 4, No. 6) of The Center for Vocational and Technical Education at The Ohio State University devotes its entirety to an explanation of ERIC and its services. More so, the description is integrated with The Center's function as the official *Clearinghouse* of vocational and technical education.

Brevity and completeness best describe the *Centergram's* treatment of the ERIC system; all vocational personnel should have this description or ready access to it. A directory of research coordinating units is also included. Highly recommended for careful review of research and professional literature in these times when the avalanche of printed materials defies staying abreast of anything other than titles and abstracts. Write to The Center, 1900 Kenny Rd., Columbus, Ohio, 43210.

A PPBES model and an anticipated report of progress. A local model of program planning-budgeting-evaluation of some dimensions should develop from the USOE-sponsored study with the Research Corporation of the Association of School Business Officials. The goal of the project is to improve management of educational and financial resources by determining the quality and cost of the products of education. Expected outcomes are (a) development and dissemination of a conceptual model, (b) demonstration of an operational system in the Dade County, Florida, school system, and (c) encouragement of other local school systems to investigate and use the model.

Basic design of the model was revealed at a Denver conference, where 180 persons participated. The model employs ERMD (Educational Resource Management Design), the details of which should have appeared in an August report. Local and State personnel should anticipate the announcement of eight regional and two professional conferences planned for this Fall.

Information on the project, of which William H. Curtis is director, should be forthcoming in *The School Administrator,* newsletter of the American Association of School Administrators, 2011 16th St., N.W., Washington, D.C., 20036.

"If we gave credit to students on the basis of what they already know or learn on their own, many of them could save at least a year of college work. The economic gains would be enormous." *Possibly other gains, fully as important, would accrue to their individual sense of achievement and satisfaction—at most levels of instruction and work.* (Quotation by Edgar Dale in *Teaching and Learning,* The Newsletter of The Ohio State University's College of Education; piggyback italics by the *RV* editor.)

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"The Oregon Planning-Programming-Budgeting-Systems Institute." Harold V. McAbee. Teaching Research Division, Oregon State System of Higher Education, Monmouth, Ore. Dec. 31, 1968. 112 pages. (See future issue of RIE for ordering information.)

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Topic Three: Statewide Planning

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Topic Four: Federal-State Planning

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"Selected Presentations from the National Conference on Program Planning and Evaluation." Washington, D.C. March 12-14, 1969. 80 pages. (ERIC # ED 028 297. HC: $4.10, MF: 50¢.)

"Papers Presented at the National Conference on Methods and Strategies for State Plan Development in Accordance

with the Provisions of the Vocational Education Amendments of 1968." Covington, Ky. March 24-27, 1969. (Copies of the guidebook resulting from this conference will be available upon request from Michael Russo, U.S. Office of Education, 7th & D Sts., S.W., Washington, D.C. 20201.)

ADDITIONAL STUDIES

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"Program Evaluation and Review Technique: Applications in Education." Desmond L. Cook. The Ohio State University, School of Education. 1966. 100 pages. (Available from Government Printing Office. Price: 45¢.)

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DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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PREFACE

"Whipping dead horses"

ADVOCATES of innovative research and guidance services self-inflict the "dead horse" criterion on some of their investigations. No doubt, the criticism is appropriate to many aspects of research in the social sciences, and it should not be regarded as a jurisdictional weakness of the guidance and counseling community. Possibly the lesson to draw is that there are too many *live* horses which should be whipped with new and bold approaches.

However distasteful the comparison, the parallels between research in guidance and counseling and research in vocational education are striking. Negative aspects of the comparison and the reasons which have produced the condition are both plausible and understandable. It is another way of expressing the wide gap between practitioners and theorists.

> The field of counseling has generally lacked a disciplined research tradition, and for understandable reasons. The service demands on counselors have often been so pressing that systematic investigation into the effectiveness and efficiency of processes and products has paradoxically been ignored. "We are too busy counseling to seriously question the consequences of what we do and how we do it."
>
> In addition, counseling, like kissing, is so intrinsically interesting and satisfying that few bother to critically examine it. The field's practitioner heritage, swamped with problems and demands, has not generally viewed "research" as an endeavor with much to offer. (Carl E. Thoresen in "Relevance and Research in Counseling." *Review of Educational Research,* April/ 1969, Vol. 39, No. 2, p. 264.)

There are other parallels.

H. B. Gelatt points these up in an interesting "personal commentary," totally without reference to vocational education. His propositions, based upon his personal experiences and a survey of three years of literature in the school guidance area, seem to have numerous applications to professional needs of vocationalists:

1. Nonprofessional support personnel are necessary.
2. Guidance goals and research must be related to the total educational system.
3. Guidance information research can contribute to guidance content.
4. Guidance research must directly involve students and guidance workers.
5. Guidance services and research must be innovative.

(In "School Guidance Programs." *Review of Educational Research.* April 1969, Vol. 39, No. 2, pp. 149-151.)

The search for a theoretical base. Current literature in guidance and counseling reflects considerable attention directed toward the development of theoretical bases. Obviously and most desirably, there is no single, accepted theory of guidance and counseling at the present time. This condition does make difficult the discovery of a functional role of guidance and counseling as they are related to the educational process in general and to vocational and technical education in particular.

Confusion is compounded as new terms become substituted for "vocational guidance," a term which in itself has never had acceptance and has suffered innumerable scars during the past half-century. Educational Testing Service's Martin R. Katz, in the April 1969 volume of *Review of Educational Research* and at the risk of over-simplification, indicates:

> In school settings, *counseling* (a process) may be regarded as a major element in *guidance* (a program), which in turn may be considered a component of *pupil personnel services* (an administrative designation about which no more will be said in this chapter.) By synecdoche, however, "counseling" has often stood for "guidance" in the literature. It seems defensible, therefore, in much of this chapter to treat the terms as over-lapping, if not interchangeable. Indeed, practitioners are called "guidance counselors" and "counselors" quite indiscriminately.
>
> However, it must be recognized that "counseling" is sometimes perceived to be more extensive than "guidance": it is occasionally found in the company of such modifiers as vocational, educational, academic, developmental, behavioral, adjustment, personal, social, ethical, and financial. These same adjectives are almost as frequently associated with "guidance," however, suggesting that the most pressing business is not to pit "counseling" and "guidance" against each other. Of greater concern is a distinctive definition of the territory that guidance and counseling jointly occupy in education.

Reference to previous issues of Research Visibility. Research and study of guidance and counseling have been treated in the past in these columns in the March and December, 1968, issues. Specifically, research related to vocational guidance was reported in March; December reporting focused its attention to the broader implications of vocational guidance and human resources. Hopefully, there has been no duplication of reporting as such; some research activities similar to those previously reported have continued, and other new ones have lately come over the horizon.

Other AVA publications. *Challenge of Guidance to Vocational Education* (12 pp., 1965, #101065, 25¢) and *Vocational Aspects of Guidance: A Statement of Policy of the AVA* (12 pp., 1968, #21368, 50¢) are available related reading.

Career Information Service

The Career Information Service: A Guide to Its Development and Use. Duncan F. Circle, et. al., Department of Education, Commonwealth of Massachusetts, Boston, May 1968.

This volume documents the Newton Public School system's career information and career guidance program offered to its students through three projects: (a) a Career Information Project to develop improved procedures for acquiring, processing and disseminating career information; (b) a Follow-Up Program to design and implement a system for conducting comprehensive follow-up studies of Newton students; (c) a job placement service.

In 1967-68, all three activities were coordinated in one Career Resource Center. This report describes the theoretical background of the services, briefly describes the projects and provides guidelines for the development of similar services for other school systems. A major bibliographic index of the materials which were assembled and used in the career resource center is also included.

Decisionmaking by the student in the process of career development is largely based on available information about work opportunities. Because of the multiplicity of occupations today the student must have guidance in understanding the choices available to him. The authors believe that the provision of information for self-evaluation in regard to career opportunities is not to be left to chance, but should be a continuing guidance service in the school structure.

Although there are various contributing factors to the de-emphasis of career guidance—the complexity, the idea that most "worth-while" students will attend college, and the attitude that values "personal adjustment" counseling more highly—the authors contend that the accessibility of occupational information is possibly one of the most crucial factors.

The first step in organizing this service was to survey the literature of Massachusetts school systems that had successful operating programs, and then to analyze the Newton school system, community resources and the student needs. After a determination of the need for a job placement service, members of the business community were contacted and a Community Advisory Committee was formed to work out the best possible way to contact employers. A steering committee of school personnel was formed which represented all school groups that would be interested in the program and the Division of Employment Security. This committee had the authority to approve or disapprove all operating plans for the collection and dissemination of job openings.

The central placement center's responsibility includes: obtaining accurate information verbally from employers; listing job openings and placing them on bulletin boards in the area schools; distributing job opening lists to employers who are on them and distributing evaluation forms for students to be interviewed by employers.

When a student is interested in a job opening he visits the job placement counselor who determines if he is qualified. If qualified and still interested after learning the name of the firm, the student is given an introduction card and an instruction sheet on job interview behavior. The student is then responsible for calling the employer and making an appointment for an interview. The employer is asked to return the introduction card and the interview evaluation form to the counselor who "closes" the vacancy if the student was hired.

One of the main problems was communication between the school and the employers. Less than half the employers notified the schools when a position was closed, and the center had to telephone the employers in order to maintain an up-to-date listing which would not cause the students to lose faith in the system as a result of receiving inaccurate information.

The Career Information Library is designed to act as a clearinghouse of available career information through several media which, because of their complexity, cannot be presented effectively by individual counselors.

Guidelines are presented for those considering the establishment of a new program or evaluating existing practices: basic references, descriptions of questions tc be considered in developing a rationale for introducing such a service, and matters related to personnel, acquisition of materials, facilities required, and systems to be followed.

The Job Placement Service should be an integral part of the vocational decisionmaking process, functioning within the school setting. One of the primary purposes of this project was to formalize vocational placement as a service provided by the school to all students.

Because time, place, money and personnel variables are so great, each school will have to devise a method suitable for it in planning a job placement service. Included in this section are some general guidelines for the development of job placement services.

The Follow-Up Service is necessary in order to gain an understanding of students in the context of their career development, and information so obtained should be used to provide indicators to students about areas to explore. For example, information should show popular occupations, those not frequently entered, employment areas new to the student, etc. This section presents a guide to be used in performing a follow-up study and also describes the Newton Follow-Up Program, including documentation of procedures developed in Newton.

The Career Guidance Resource Center was formed just prior to the writing of this document by the consolidation of the Career Information Library and the Jobs for Youth Placement Service as part of the guidance program of Newton High School. One of the guidance services provided by the professional staff is consultation with students, most of whom have been referred by the school counselors.

Teachers and classes visit the displays and use the materials avail-

able. Career assemblies and conferences are presented in the school, and speakers are brought in from the community. A vocational testing service is provided. Ideally, the center should also provide inservice training in career development for school faculty. The possibilities for a center of this nature are limitless, and a flexible adaptation is possible for all types of schools.

Pilot Computer-Assisted Guidance Program

The Development and Evaluation of a Pilot Computer-Assisted Occupational Guidance Program. Joseph T. Impellitteri. Pennsylvania Department of Public Instruction, Harrisburg, Pa. July 31, 1968.

The Computer-Assisted Career Exploration System was developed to: (a) provide "an easily updated individualized occupational information retrieval system," (b) develop "a process whereby youth could develop their own individualized frameworks of the occupational structure" and (c) provide "an experience for youth to acquire, by simulated practice, operational strategies in relating their abilities and interests to occupational opportunities."

The system consists of a terminal, at which the student is seated, consisting of a computer-controlled, typewriter-like device, tape recorder and slide projector. The terminal is connected to an IBM 1401 computer, which houses information about the student and various occupational functions and requirements.

The system works as follows. The student receives orientation on the purpose of the system and is given a list of 40 occupations with corresponding codes. When he is seated at the terminal, the computer requests that he select one of these occupations for further exploration. The student responds by typing out a code number, and he receives from the computer a typed-out short paragraph describing the occupation.

The computer then asks whether the student, on the basis of the information he has received, wishes to learn more about the occupation. If he does, the computer begins a series of four operations giving further illumination to the occupation. First, it types out a list of any discrepancies between the student's "ability-preference profile" and the requirements of the occupation. Then it plays a two-minute taped interview with a worker in the occupation, after which a picture of a worker performing tasks of the occupation is shown by the slide projector. Finally, a 150 to 200-word description of the occupation, which the student may keep for later reference, is typed out by the computer.

The guidance sessions last 40 minutes each, and in this period of time the student may explore as many occupations as he desires or has time for. At any point he may request that the computer select for him occupations for which he is best suited, according to the personal information which the computer has for him. The student is permitted to use as many 40-minute sessions as he wishes.

The system was field tested at two junior high schools in Pennsylvania. The first test was conducted with 72 ninth grade boys who were planning to take a vocational or technical course when they entered senior high school. Through this field trial, three basic faults were found with the system. These were generally alleviated through changes in the computer system before the second field trial was conducted. The second trial was conducted upon 140 ninth grade boys who also indicated a desire to enter a course of vocational or technical training the following year. Some of the findings of this second field trial were that:

- The average number of sessions for which the boys used the system was five.
- An average of 16 occupations was investigated by each boy.
- Sixty-five percent of the boys asked the computer to select occupations for them to pursue further.
- In general, the boys sought out additional occupational information on their own.
- The most helpful aspect of the system appeared to be the typed descriptions of the occupations which could be kept for future reference, and the least helpful were the slides.

After they had completed their sessions with the system, the boys were surveyed for their reactions to the system and any changes which they thought should be made in it. Among their suggestions for changes in content of the sessions were those which asked for more choices of occupational descriptions, more information on each occupation, and interviews with more than one worker in each occupation. It was also suggested that explanatory comments accompany slides. The boys felt that more orientation to use of the system was needed and that sessions should last more than 40 minutes.

In forming conclusions and making recommendations regarding the study, it was necessary for the investigator to distinguish between the sources from which he received evaluatory information. Some of this information was collected through interviews and a written reaction inventory from the boys. Results of these evaluatory instruments would tend to be misleading, as they represent only students' self-perceptions.

A different interpretation was obtained from "directly observed phenomena" such as comparisons of occupational choices before and after participation in the program, the number of boys who sought additional occupational information on their own, and the ability of the boys to explain a strategy for investigating occupations without the help of a computer.

In general, it was concluded that the boys did like the terminal experience. They liked the private nature of the interaction, but in at least half of the cases expressed a wish that opportunities to discuss problems were available. It is therefore suggested that perhaps "some ideal mix of terminal experience and counselor involvement in the total process" should be attempted.

Findings indicated that the increased knowledge of the boys in regard to occupational opportunities was not reflected in their choices of tenth-grade courses of study. This fact indicates that guidance should go further than just occupational information at this level—it must be placed in a useful framework. The inability of the boys to utilize the occupational information which they received places "some doubt on the effectiveness of the Computer-Assisted Career Exploration System."

It was concluded that, although the students perceived the system to

be useful and enjoyable, it did not promote observable changes in their occupation-seeking behavior or attitudes. A revised system will be used in tests in the winter of 1969, and the investigators hope that by this time there will be other computerized guidance systems in operation against which the results may be compared.

Junior High Program

Occupational Information in the Junior High School: Implications for Vocational Education. Richard R. DeBlassie and W. Paul Jones. New Mexico Research Coordinating Unit, Santa Fe.

This report presents the procedures, results and implications of a survey of the availability and use of occupational materials in the junior high schools of New Mexico. Occupational materials relating to vocational education were a major focus of the study.

The survey was conducted by means of a questionnaire containing questions concerned with (a) availability of occupational information, (b) extent of use by professional staff and students, (c) sources of material, (d) percentage of materials relevant for vocational education, (e) appropriateness of reading level, and (f) factors which may be limiting the use of occupational materials.

Results of the survey indicated that a high percentage of respondents had access to a file of occupational information in their schools, with a majority of both professional staff and students using these materials at least occasionally. The largest source of materials was printed kits and free materials, and the majority of the respondents felt that over half of the materials available related to vocational occupations. Most of the respondents felt that the reading level of the materials was appropriate for their students. Factors limiting the use of materials were inaccessibility or inappropriateness of materials, or lack of integration of materials.

The following recommendations resulted from the study:

1. Counselors should aid teachers in developing methods for incorporating occupational information into the curriculum.
2. Counselors and teachers using occupational information at the junior high school level should evaluate such information prior to presenting it to pupils.
3. Counselors and teachers using occupational information at the junior high school level should periodically evaluate and bring their occupational information files up to date.
4. Counselors and teachers should be encouraged to include more occupational information dealing with careers not requiring a degree.

Information Flow Into Secondary Schools

Determine the Feasibility of Developing a Model Describing the Flow of Occupational and Economic Information Into the Secondary Vocational-Technical School. Leonard C. Silvern. Education and Training Consultants Co., Los Angeles, Calif. June 1967.

The objectives of this study were to determine the feasibility of synthesizing a model describing the flow of occupational and economic information into the secondary vocational-technical and comprehensive school from outside the school or school district. The original model would be built on the experience of the investigator and others knowledgeable in the field, and then would be synthesized into a new model based on analysis and evaluation of the original model. The evaluation, along with implications and recommendations, of the new model are published in this report.

An examination is made of system conceptualization from 1914 to 1964, and recent developments in systems analysis and synthesis for education are outlined and evaluated. The term "feedback" is defined for purposes of the study.

Information for development of the model was obtained from occupational teachers, supervisors of occupational instruction and directors of vocational education (or the equivalent), state departments of education (including bureau chiefs, division heads, regional supervisors, regional technical personnel, and university staff), university faculty not affiliated with a state department of education function, county departments of education having occupational education functions, occupational counselors in secondary schools and school districts, training directors in government agencies and private business, officers of professional societies, twelfth grade students, recently graduated students, and experts in school-industry relationships.

Samples were taken primarily from the fields of radio and television electronics, machine drafting and design, and commercial art.

A flowchart model is presented in the report, and 49 closed-loop signal paths for feedback are described, evaluated and related to occupational instructor performance. The model is described by the study as having these characteristics:

1. It is a high-fidelity analog of real-life.
2. It is a cybernetic model, showing interaction with a real-life environment.
3. It is closed-loop with a large number of feedback signal paths, extrinsic and intrinsic to the school or school district.
4. It is a general model of secondary schools and of occupational teachers in those schools.
5. It has closed-loop feedback paths each of which is identifiable in terms of up to five characteristics.
6. It appears possible to measure the value of each feedback loop in crude units.
7. It makes instructor performance a related function.

The approach used in the study was concluded to be feasible and can also be extended to other problem areas. It is felt that models can be developed which will have an immediate, practical application.

The appendix to the study presents a paper by Leonard Nadler, "How New Content Elements Enter into Vocational Courses, in Actual Practice."

Bound volumes of *Research Visibility* are available. Vol. I (1967-1968) is priced at $1.25; Vol. II (1968-1969) is $1.50. Both volumes may be ordered at a special rate of $2.50. Discount of 10 percent is given for orders of 10 or more. Send orders to AVA, 1510 H St., N.W., Washington, D.C. 20005.

National Seminar on Vocational Guidance

National Seminar on Vocational Guidance, August 21-26, 1966, Northern Michigan University, Marquette, Mich. Final Report. John G. Odgers. American Vocational Association and American Personnel and Guidance Association, Washington, D.C. September 1968.

The major objective of this seminar was "the achievement of more adequate vocational guidance services in the nation's schools through the improvement of state supervisory services." The seminar included keynote addresses by national leaders in vocational education and guidance, discussion panels (state directors of vocational education, national leaders from business, industry, labor, and the U.S. Employment Service), demonstrations, small group discussions, work groups, individual consultation, and opportunity for independent study and the use of seminar resource files.

State departments of education contributed vocational guidance materials for distribution to seminar participants. These included handbooks, manuals, bibliographies, course or conference outlines, project descriptions and other publications.

Seven work groups tackled each of the following topics:

1. To develop program proposals for the orientation of students to vocational education opportunities and requirements, and to develop improved group procedures related to vocational planning, course choice, and economic education.
2. To analyze types of vocational, educational and economic information available and needed, and to recommend approaches to meeting identified needs at both the elementary and secondary level.
3. To relate testing services to vocational guidance and course selection and to develop proposals for vocational course selection techniques.
4. To seek consensus on basic principles regarding school programs of vocational guidance and to develop program recommendations for upgrading counselor competencies in educational and vocational guidance.
5. To increase competencies in establishing and maintaining state supervisory relationships and channels of communication with local schools.
6. To determine needs related to the preparation of counselors for the educational and vocational aspects of the guidance program and to study and determine specific methods by which state guidance personnel and counselor educators may cooperate in preservice and inservice education.
7. To share methods and techniques for community or area occupational surveys, student interest surveys, and other studies related to the establishment of vocational courses or area vocational schools.

Guidance needs which work groups and participants voiced during the seminar were stated as follows:

"1. There is a need for improved communication among personnel in industry, labor, business, and education. Fulfillment of this need will require common definitions since effective communication presupposes at least minimum consensus on terminology.

"2. There is a need for the content of counselor education programs to be attentive to the wide range of functions counselors perform such as follow-up and placement as well as the consulting relationships in which they engage with teachers, parents and administrators.

"3. There is a need for personnel in education to make more effective use of the wide range of community resources available to them.

"4. There is a need for personnel in education to work more effectively with the decisionmakers both in and out of the school setting.

"5. There is a need to acquaint personnel in education more adequately with the wide range of available educational, training and occupational opportunities."

Ten months after the seminar, in the summer of 1967, a follow-up study was conducted to determine what, if any, projects, activities or services had resulted from the seminar. Eighty percent of the participating states responded, noting 215 specific outcomes of the seminar. From responses to the follow-up questionnaire, it was concluded that most participants felt a need for an ongoing series of seminars of the type of interaction which was fostered at the first seminar.

Development Workshop

Career Development Workshop, June 1-4, 1969. Final Report. E. G. Kennedy. State Department of Education, Topeka, Kans. 1969.

This workshop was the first of an anticipated annual series for assisting participants to fill the need for career development counseling of Kansas youth. The area of emphasis of the workshop was on career counseling of noncollege-bound students. Workshop proceedings included seven addresses on various aspects of career development and its problems.

Kenneth B. Hoyt, State University of Iowa, discussed "Career Counseling Today." In highlighting some of the crucial considerations which must be kept in mind while moving toward solutions to the problems of career counseling, Dr. Hoyt stressed three concerns: (a) implications of changes in society and the world of work upon the concept of counseling; (b) the role of education and training in career counseling, and (c) responsibilities in the "transition from school to work."

R. Wray Strowig, University of Wisconsin, presented a paper titled "Vocational and Technical Program Information for Use in Counseling High School Youth." While focusing upon guidance information regarding training programs in vocational schools, technical institutes and junior and community colleges, Dr. Strowig discussed the scope, purpose, need, and uses of this information.

After preparing participants with a background of the need for and analyses of vocational-technical information, areas where there is a need for research and developmental application of information about voca-

tional-technical curricula and institutions for guidance purposes were presented. Some of these pertain to the need for equal opportunities for women, the need for occupational adaptability, and the need for criteria and procedures to evaluate training information.

Francis A. Gregory, U.S. Department of Labor, Washington, D.C., presented a paper on "Organized Training Facilities Related Directly to Recent Federal Legislation—Including Apprenticeships." After "illuminating some of the unmet needs of youths and adults for which federal manpower programs have been attempting to supply compensatory services," Mr. Gregory reviewed some of the principal services that are available: USTES, Youth Opportunity Centers, Cooperative School Programs, MDTA Programs, Labor Mobility Demonstration Projects, Bonding Assistance, services for older workers, the New Careers program, apprenticeship training, outreach and information center programs, Job Corps, and Neighborhood Youth Corps.

In concluding, Mr. Gregory listed 11 insights which have been gained from experience in the manpower development effort, and which he feels have significance for public education:

1. Nearly all persons are trainable.
2. The motivational barrier can be cracked.
3. Rapid literacy training is possible as a part of job training.
4. The length of training should be varied according to individual needs.
5. An experience of success is essential.
6. Systematic linking of services is necessary.
7. Repeated job placement may be needed.
8. Post-placement support is often crucial.
9. Youth training requires special emphasis on supportive services.
10. Correction of health deficiencies is extremely important.
11. The ability to relate on the part of the instructor is of prime importance.

Harold Reed, U.S. Department of Labor, Washington, D.C., addressed the seminar on the topic of "The Employment Service as a Resource for Career Counseling." A review was made of some of the manpower programs and services, and a statement was made of the rationale for the programs and services which have a counseling component. The Human Resources Development Concept was illuminated, along with the HRD Employability Model and the Worker Incentive Program through which it works.

Frank F. Hoge, Vocational Rehabilitation, Topeka, Kan., discussed the "Division of Vocational Rehabilitation as a Resource for Career Counselors." After a description of the services of the Division, he stressed the need for cooperative efforts with other public and private sources.

Roy H. Johnson of the Kansas Chamber of Commerce, Topeka, presented an address, "Local Chambers of Commerce as a Resource for Counselors." Mr. Johnson pointed out services of the Chamber which can be valuable to the counselor: contact with the Chamber's education committee, and contact with local employers. Many attempts at setting up a flow of information and contact between school counselors and Chamber of Commerce members were outlined, and the hope was expressed that some such programs can be set up to remain operational. There is a need for someone to take the initiative in closing this communications gap—the desire for better communications in this valuable area is existent.

Dr. Strowig presented a final paper on "Counselor Attitudes and Career Counseling." Two propositions were discussed in the paper: (a) "that career or vocational counseling in schools is not as often or as well conducted nowadays as are other types of counseling" and (b) "that a number of counselor attitudes are not compatible with effective and sufficiently emphasized career counseling with adolescent youth in schools."

Suggestions for strategies for changing unfavorable attitudes toward career counseling were made. One of these was the use of a general model for "bringing about attitude change through the use of information media." Another was to bring about changes in attitude by "recognition and acceptance of feelings along with appeal to reason."

Comparative Guidance and Placement Program

Comparative Guidance and Placement Program: Interpretive Manual for Counselors, Administrators and Faculty. College Entrance Examination Board, Princeton, N.J. 1969.

This Interpretive Manual was prepared to provide descriptive information and statistical data which will help counselors, administrators and faculty in using the tests and services of the Comparative Guidance and Placement Program, a program for helping students entering two-year colleges to make sound educational and career decisions.

CGP tests focus on "experiences, interests and cognitive skills" of entering two-year college students. Experience from both academic and industrial situations was used in development of the CGP battery of operational and experimental tests. The operational tests are those which have been tested and found to be of use to counselors and students. Experimental tests are given in order to obtain information on the validity of the test itself, for possible inclusion in the battery of operational tests. The operational test battery was developed through field surveys which collected information about the particular needs of counseling for the two-year college student.

Among the CGP's operational tests are one for measurement of verbal skills and another for measurement of mathematical skills. In addition, a Letter Groups, or reasoning, test and a Year 2000, or integrative reasoning test, are included in the battery. Two other instruments, the Biographical Inventory and the Comparative Interest Index, measure experiences and interests rather than abilities.

The Interpretive Manual includes information on the meaning of results of CGP tests, both in statistical form and for use in individual counseling sessions. Another interpretive guide, written especially for students and entitled *Using Your CGP Report,* is mailed to each student along with his test scores.

Student Selection and Prediction of Success

Review of Research on Student Selection and the Prediction of Success in Occupational Education. William E. Stock and Frank C. Pratzner. Minnesota Research Coordination Unit in Occupational Education, University of Minnesota, Minneapolis, Minn. August 1969.

In undertaking this project, a systematic search was made of research that has been conducted since 1960 related to selection of students and prediction of student success in occupational education. Although the review may not be all-inclusive, efforts were made to be thorough in the analysis.

An *Overview and Synthesis of Research* notes that "aptitude testing alone is not the whole answer to the student selection/prediction problem(s)." Study is needed also of non-intellectual factors, such as interest and motivation. A lack of material other than graduate dissertations is noted, and more systematic, longitudinal efforts are called for. Although the General Aptitude Test Battery is frequently cited as a very successful predictor of occupational interests, other tests should be investigated for greater value during different stages of personal and vocational development. Motor ability tests are seen to be of "negligible value in the selection-prediction process."

It is noted that "while many studies have successfully employed regressional techniques to identify selected variables for the prediction of variously defined training outcomes, few took the additional step of reporting (or perhaps the prior step of investigating) whether the regression equations and/or predictors identified through the regression equations were actually adopted and successfully utilized to effect student selection and guidance procedures or program changes." The importance of knowing whether use of data gained in studies makes a difference in outcomes such as reduced dropout rate or increased employment success is stressed.

The review is divided into three classifications: "achievement," "completion" and "student characteristics." The accompanying table depicts the number of predictive studies reported in the review for each student group according to these classifications.

Prediction of Achievement

The review notes that more effort has gone into research regarding achievement than in other areas. This fact is attributed to: (a) the ease in using available instruments for this purpose; (b) the shorter time period needed for this type of study, and (c) the clearly defined outcomes from this classification of research. The need for a programmatic approach to research in this area is noted. Various predictors of achievement are presented; among them are high school industrial arts scholastic achievement, academic variables, high school rank and grade point average, and, to a lesser extent, the American College Test.

Prediction of Completion

The difference between research studies predicting achievement and those predicting completion found by the review was that those predicting completion used non-intellectual variables in the predictor equations to a greater extent. The scarcity of studies in this area is mentioned, and findings of research on prediction of completion will need further validation through more research.

Among the predictors mentioned, however, were arithmetic achievement tests, the Differential Aptitude Test battery, intelligence scores, and ninth grade attendance and combined academic averages. In regard to success in two-year technical and associate degree college programs, the Minnesota Vocational Interest Inventory, "grade-expected-in-course," and student "motivation" were mentioned as important indicators. Studies of completion variables for adult vocational-technical students noted successful use of Employment Service test batteries and the General Aptitude Test Battery.

Prediction of Student Traits

As may be noted in the table, few studies of student-related characteristics were found for high school and post-high school groups, while more were available for adults. Also, no studies were found on prediction of achievement of adults. The reviewers feel that this is due to the fact that "reasons for selecting particular programs, and forms of desired training were more important variables for institutions than data predictive of achievement or program completion." Indicators of student characteristics mentioned by the review are the Minnesota Vocational Interest Inventory, Kuder Preference Record, Hackman-Gaither Vocational Interest Inventory, and the Strong Vocational Interest Blank.

Current research on student selection/prediction of success points out the need for improvement in current practices. Three approaches to the improvement of this process are described in the review. Among improvements of existing programs suggested by the review are use of "full-time certified counselors in each school . . . paraprofessional assistants . . . program coordination, long-range planning and graduate follow-up, and inservice staff training in . . . counseling." In addition, a "single selection, guidance and placement center for a state or region within a state" was outlined along with a "secondary school prevocational approach to selection and guidance."

		PROGRAM OUTCOMES		
		Achievement	Completion	Related Student Characteristics
Student Groups	High School	13	3	3
	Post-high School	25	12	3
	Adult	0	4	8
	Total	38	19	14

Guidance and Counseling Services

Review of Educational Research: Guidance and Counseling: Vol. 39, No. 2. American Educational Research Association, Washington, D.C. April 1969.

Because most studies in the areas of counseling, guidance and personnel services "fail to ask or explore questions that in any way alter theoretical rationales, programs or practices," this issue, which reviews studies in these areas, contains much critical comment on the status of research in various fields relating to counseling and guidance. Suggestions for further study are noted, and areas "in which further research would be futile" are identified.

Harry B. Gelatt of the Palo Alto Unified School District reviewed research in the area of School Guidance Programs. In reviewing and commenting upon recent developments in guidance research at the elementary and secondary school levels, Dr. Gelatt urges the development of "systematic conceptual frameworks for purposes, practices, functions, and the substance of guidance in education." Noting that the past three years of research in this area were plagued by a lack of strongly stated objectives and a disagreement on the philosophy and basic objectives for guidance services, Dr. Gelatt sees a need for guidance services to become responsive to "theoretical principles, scientific investigations and changing needs."

In discussing the role and function of guidance, he mentions the 1965 study by Robert Clarke, Harry B. Gelatt and Louis Levine which presented a decision-making framework for guidance, and another study (1966) by Martin Katz, which builds a model for the guidance role and function. The comprehensive approach to guidance services is discussed, with mention of John C. Flanagan's 1967 study in which a program (PLAN: A Program for Learning in Accordance with Needs) for defining an individualized study program for each student is presented. The Tiedeman experiment at Harvard (see *RV, October 1969*) and several assessment studies which examine elementary and secondary school programs are mentioned.

In reviewing research of the counselor as a researcher, Dr. Gelatt notes four points which are generally emphasized:

"1. A framework for the provision and evaluation of guidance services is desirable.

"2. The goals and specific objectives of guidance services need to be explicitly stated.

"3. The question of values cannot be ignored.

"4. Research that is undertaken must be locally meaningful and related to procedures used and objectives sought."

Dr. Gelatt feels that any separation between elementary and secondary school guidance programs should be de-emphasized, and he reviews a great deal of research relating to guidance programs.

A review of research relating to career development is presented by John L. Holland and Douglas R. Whitney of the American College Testing Program. In surveying the field of theory and speculation on career development, the authors denote as the most comprehensive work that which was done by John O. Crites in 1968. The text, *Vocational Psychology,* "deals with vocational choice, adjustment, success, theory, satisfaction, etc."

A decreasing rate of literature on vocational images, preferences and influences was noted by the authors in the past three years (the period of work covered by this issue). This was also true of the amount of literature to be found on occupational classification, although it was felt that the available material was very promising.

Longitudinal studies, both theoretical studies and surveys, were explored by the authors. In making an evaluation of the research in the field of career development for the years 1965-1968, the authors note a rapid growth in the amount of research, but not very much significant information coming out of this research. It was also noted that more integration of current knowledge is needed.

William W. Cooley and Raymond C. Hummel of the University of Pittsburgh reviewed research regarding systems approaches in guidance. Three projects were reviewed in length: the Systems Development Corporation Vocational Counseling System: Autocon, the Tiedeman "Information System for Vocational Decisions" (*see RV, October 1969*), and the IBM Guidance Counseling Support System. Noting that these projects do not represent the full potential of this means of guidance, the authors cite a 1968 study by William W. Cooley which argues that "guidance systems should be considered as part of the total educational system."

While looking with enthusiasm on the new vistas opened by the systems approach, the authors offer a few words of caution. In regard to the problems of the systems approach contradicting the philosophy of personal contact in guidance situations, the authors feel that actually, the systems approach will not become a substitute for personal contact, but will permit more individualized information-seeking and decision-making to go on, thus leaving more time for the student and the counselor to interpret the information on a personal basis.

The second area in which to exercise caution, according to the reviewers, is that of underestimating the amount of time needed in the systems development effort. Those who are working in the field, and those from whom funding is received, must understand that the road ahead is very long.

Other subject areas covered in this issue of *Review of Educational Research* are "Theoretical Foundations of Guidance" by Martin R. Katz; "Higher Education Programs and Student Development" by Harold A. Korn; "Counselor Education" by John M. Whiteley, "Changes Through Counseling" by Ray E. Hosford and Alan S. Briskin; "Group Counseling" by Alan R. Anderson; "Counseling Students with Special Problems" by D. David Island, and "Relevance and Research in Counseling" by Carl E. Thoresen.

JANUARY ISSUE . . . *Research Visibility* will begin the new year by reporting on studies dealing with "curriculum." The studies will cover various programs in vocational, technical and practical arts education.

Socioeconomic Profile

Socioeconomic Profile of Credit Students in the North Carolina Community College System. Gerald M. Bolick. North Carolina Department of Community Colleges, Raleigh, N.C. July 1969.

A comprehensive community college system has been established in North Carolina. In order that administrators, instructors and the community might have information regarding the social and economic characteristics of students in these colleges for effective programing and planning, a socioeconomic data sheet was filled out by 11,184 students enrolled in 42 community colleges and technical institutes. Questions regarding family income, parents' education, high school curriculum, plans for the future, and distance to class were asked.

Results of the questionnaire evidenced a varied social and economic background among North Carolina's students. Ages ranged from 17 to more than 50 years; parents' incomes varied from $5,000 or more for over half of the students to $10,000 and over for one-sixth of the students. While 92 percent of the students have completed the twelfth grade, only 35 percent of their fathers and 46 percent of their mothers had done so. More than half of the students were employed at least part-time, with 40 percent of the trade and industrial students being employed full-time. Males outnumber females in the system two-to-one, and 27 percent of the technical and 16 percent of the vocational students plan to work toward a four-year degree.

The value of the community college system to the State is evidenced through figures obtained in the study. One-third of the responding students said that they would not have attended school that year if the school they were attending had not existed, and three-fourths of the students plan to seek employment in North Carolina when they have completed their studies.

Areas which showed need for improvement were educational opportunities for women, lower socioeconomic groups, evening students and those over 25 years of age, and nonwhites. Coordination and articulation of the various levels of instruction in the State, from high school to senior colleges, would provide a more complete program.

Specifically, the study sought to establish socioeconomic profiles for the entire North Carolina Community College System, each of the three program areas which offer credit, and each of seven curriculums in the occupational programs. A comparison was also made between North Carolina students with their counterparts in other states. Finally, data were collected as a basis for follow-up studies of the effect of student characteristics on the drop-out rate, grades, employment opportunities, and employment success.

The typical technical student in a community college in North Carolina was found to be a white, unmarried male of 18 to 22 years of age. He does not plan to work for a four-year degree, and he plans to work in the State after graduation from his technical course.

The same is true of the typical vocational student. His family's income is typically lower than that of the technical student ($4000 or more annually compared with $5000 or more), and he generally works more hours per week than does the technical student. Characteristics of students and typical students for each of the seven occupational curriculums (agriculture, distribution, engineering, health, home economics, office, and trade and industry) are described.

Nonprofessional Women

Vocational Interests of Nonprofessional Women. David P. Campbell, University of Minnesota, Minneapolis, and Lenore W. Harmon, University of Wisconsin, Madison. Dec. 1968.

The average working woman of today is 41 years old, married, and she has approximately 20 years of employment ahead of her. It is becoming increasingly important, therefore, to provide effective vocational counseling for women who plan to enter the labor market without college preparation.

The purpose of this project was to study the vocational interests of women in nonprofessional occupations in order to gather information on the patterns of their interests. A study of this nature could assist counselors of women to compare the interests of those who are making vocational choices with the interests of women who are presently working.

The Strong Vocational Interest Blank was administered to 5,583 women in 17 occupations which require either no post-high school training or some noncollegiate training, such as beautician training. In addition, information was collected regarding the age and educational attainment of the respondents and their perception of their jobs. Through these instruments the study attempted to determine whether or not vocational choice of women was dictated by different interest patterns or solely by economic and convenience factors. Assuming that choice is the result of interest patterns, an attempt was made to describe and quantify the patterns.

Only questionnaires of women who replied that they enjoyed their jobs and had been employed in their present one for at least three years were scored for purposes of the study. Educational levels of the sample varied from less than high school to college. A questionnaire listing adjective pairs regarding work, such as "dangerous/safe" and "artistic/not artistic," was used to investigate the respondents' perception of their jobs.

The questionnaire was scored separately for each occupation studied, and results are included in the report in chapters dealing with each occupation as well as in a scale including all occupations. For example, the women generally described their jobs as nonscientific, although radiologic technicians and elementary teachers described themselves as scientists more often than other occupational groups.

Responses to the Strong Vocational Interest Blank were scored for

each occupation, and a scale was set up for each occupation. The scale designated the areas in which women in that occupation expressed a stronger interest than "women in general" (including professional and semi-skilled women.) The scales do reflect meaningful differences in interests between women in the various occupations, and it was recommended that these scales be used in counseling noncollege women in occupational possibilities fitted to their SVIB-identified interests.

A set of Basic Interest Scales was developed. Nineteen of these scales (topics such as homemaking, sports, mechanical, and religious activities) were set up with each occupation being placed on its own level of interest in that area. For example, on the homemaking scale, executive housekeepers, telephone operators and sewing machine operators scored relatively high, while mathematicians, artists and enlisted Army personnel scored much lower. These scales were developed to indicate the interests which characterize women in a certain occupation.

The study concludes with the two-fold observation that it was unable to measure intra-occupational differences which admittedly exist; the study did not determine how the differences between occupations are initially formed. There is also a gap in formalizing the structure of vocational interests. It is recommended that continued investigation of nonprofessional women be made to avoid future turmoil in these occupations.

Techniques Applied to Maladjusted Under-Achievers

The Application of a Special Counseling Technique to Maladjusted Under-Achievers: A Pilot Project. Leland J. Winger. Salt Lake City School District, Salt Lake City, Utah. August 1968.

This study was conducted as a test of the Otto Self-Concept Improvement Counseling Technique (OSCICT) on maladjusted underachievers (dropouts). It was designed to measure the improvement of the dropouts' self-concepts, scholastic abilities and achievements through use of various testing instruments. A follow-up study for the purpose of measuring the employability of the participants was made six months after the initial program.

The OSCICT is a technique developed by Herbert A. Otto, associate professor, University of Utah, to help an individual realize his total potentialities through emphasis of his personality strengths. Although the OSCICT had been previously successfully tested on healthy subjects, the need for it to be tested on less healthy individuals was realized.

The theory upon which Dr. Otto bases his technique is that in order to succeed in learning an occupation, holding a job, and participating as a productive citizen the dropout must change his behavior and outlook, accept a new image of himself and develop an improved self-concept. He feels that this change must be effected through existing school situations with the help of understanding teachers, counselors, principals, and administrators.

Three groups of students selected from MDTA youth projects were the subjects of the study. Two groups were taken from the Salt Lake City School District—one experimental and one control group. Another control group was then selected from the Ogden School District. Students in the Salt Lake City groups were divided into eight homerooms, four of which would receive the OSCICT and four of which would not. The groups would spend one hour each day in homeroom classes, at which time the four OSCICT groups would receive OSCICT assignments and the other groups would receive the traditional homeroom program.

Pretests and post-tests were used in evaluation of the program. These tests included the California "F" Scale, the Winger Behavior Inventory, the Mooney Problem Checklist, the verbal and non-verbal forms of the Lorge-Thorndike, and sections of the Iowa Test of Educational Development. In the pretest phase, some testing was done verbally because of illiteracy of some students.

OSCICT consists of five major components: the Multiple Strength Perception Method, Action Programs, Your Strengths forms, Strength Role Assignment, and the Minerva Experience. These techniques are employed with the groups only after they (a) "have developed a considerable degree of interpersonal closeness," (b) "are able to communicate spontaneously and freely about their real concerns," (c) "are able to share the depth of their feelings," and (d) "can use confrontation productively."

The Multiple Strength Perception Method is a group participation technique in which, after a randomly selected "target person" has listed for the group what he perceives as his strengths, the group "bombards" the target person with what it perceives as his strengths and factors which keep him from utilizing these strengths. After this "bombardment" the group shares in a fantasy about what the target person might be like five years later if he were to use all of his strengths.

The Minerva Experience technique is based on group relating of experiences. Minerva Experiences are defined as "a network of highly formative and growthful experiences having strongly positive affective components and which play a dominant role in the genesis of personality resources thus significantly affecting personality development."

Group members are asked, as an interim assignment, to attempt to recall such experiences in their own lives. In the next session, with the use of a chart which lists age groups starting with "age 15 to 18" and ending at "below 3 years," the participants begin recalling aloud Minerva experiences which they had in the various age categories. Oftentimes the experience which one group member is relating triggers recall of an experience for another group member.

As in the Multiple Strength Perception Method, the Assigned Strength Roles technique has the group working with a randomly selected target person. In this case, however, the group offers suggestions of roles which members feel would strengthen or help mobilize the potentialities of the target person. Finally, a strength role is assigned by the group for the person, and he attempts to carry out behavior associated with that role for approximately one week.

At the end of the period, he describes to the group his experiences in his strength role, and also any changes he has noted in himself or persons associated with him due to his strength role behavior. It has been found that this method has been valuable in developing latent abilities and capacities in the individual, and that behavior carried out during the period of assignment is often continued beyond that period.

Action Programs are defined as "any activity, program or interpersonal experience in which the participant engages outside the counseling setting in order to facilitate the development of strengths or the utilization of his potential." Members of the group choose action programs for themselves. These programs should be of a short duration, perhaps three to seven days in length, and should start with easier acts, such as a grooming improvement, and may progress to more complex acts, such as building a new friendship.

Success or failure in the action program is reported back to the group, and failures are examined by the group in order to determine the obstacles to their success and ways to remove them. The action program technique is unique in that it extends therapy outside the counseling session into the process of living.

The "These Are Your Strengths Forms" technique is designed to provide the target person with "a series of positive, ego-supportive experiences." Members of the group fill out forms on which they list strengths that they perceive in a target person. A discussion session follows in which participants may clarify rationale for their lists, and amplify their decisions.

Results of pretests and post-tests were less conclusive than it was hoped for at the outset of the study, due to the fact that the experimental and control groups had significant age and achievement differences as indicated by the pretests. Therefore, comparison of the experimental group with the control groups was virtually meaningless; comparison of experimental group pre- and post-test scores was, however, possible.

Comparison of this nature was made difficult because of the differences between male and female members of the experimental group. Female participants were initially less deviant in personality traits, better academically prepared, younger, and had more academic potential than the male members. Despite these difficulties, improvement on all but the Lorge-Thorndike post-test was evident for the experimental group as a total.

The investigator concluded that the OSCICT was an effective method for improving personality deficiencies in maladjusted underachievers, but that it should be tested further in another project in which enrollees would have more time to actually demonstrate academic achievement.

Career Thresholds

Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Volume One. Herbert S. Parnes, et al. Center for Human Resource Research, The Ohio State University, Columbus, Ohio. February 1969.

This study is the report of the first of six planned interviews with a sample of men who were between the ages of 14 and 24 as of April 1966. The studies are being conducted by the Center for Human Resources Research at The Ohio State University under a contract with the U.S. Department of Labor, and are conducted in conjunction with studies of other age and sex groups: men aged 45-59, women aged 30-44, and young women aged 14-24. These four groups were selected for study because of the special labor market problems which confront them. The study reported here (young men) was conducted in 1966. It concerns problems of occupational choice: preparation for the world of work, and accommodation to it.

The report has taken a look at "labor force participation, unemployment experience, employment patterns, labor market knowledge, job attitudes, and educational and occupational aspirations of the age cohort as of the time of the initial survey" and has sought explanations for variations according to economic, social and psychological differences between the young men.

The total study aims to identify labor market problems of young men, identify the sources of these problems, and perhaps suggest remedial policy measures. Specifically, the study seeks to determine how the "interaction among economic, sociological, and psychological characteristics . . . permits some members of a given socioeconomic group to make good job choices and to adjust satisfactorily to labor market conditions while others do not."

Major dependent variables of the study were labor force participation, unemployment, mobility, job attitudes, knowledge of the labor market, and educational and occupational aspirations. In most cases, comparison is made on the basis of color. Other variables such as formative influences, marital and family characteristics, financial characteristics, skills, health and physical condition, school experience, work attitudes, and environment were also treated.

In a survey of demographic and social characteristics, it was determined that "there are very dramatic differences between white and black youth with respect to a large number of socioeconomic variables that may be expected to have profound effects on labor market experience and behavior." For example, it was noted that as a result of family background and socioeconomic status, along with the factor of where the youth lives (rural area, suburb, large city), that black youth are less likely to be enrolled in school than white youth. Also, blacks are less likely than whites to be enrolled in college preparatory curriculums or to have received vocational training outside of the formal educational system. (See *table on page* 53.)

Investigation of labor force and employment status of young men reveals that labor force participation within age and school status categories is related to a number of factors: high school curriculum and educational aspirations, marital status, health condition, and local labor market conditions. The most powerful of these was found to be whether or not the individual is enrolled in school.

In order to measure the amount of knowledge of the world of work, an occupational information test was administered. The test consisted of three components: (a) an occupational identification instrument in

which respondents were asked to select one of three statements which best describes duties of each of ten occupations; (b) an estimate of educational attainment of the average worker in each of the occupations, and (c) an estimate of which worker of a given pair earns a higher average yearly salary.

Results of the testing indicated that "the amount of occupational information a young man possesses grows very substantially from his early teens to his early twenties, in part as the result of formal education, but also simply as the result of experience." Other variables which produced differences in amount of occupational information possessed include the character of family life (father's occupation and amount of reading material in the home) and color differences.

It was suggested that an effort should be made to familiarize students with the world of work at an early age, so that basic decisions as to courses of instruction to follow may be made rationally. Data suggest that higher levels of labor market information pay off in better jobs and higher wages.

A survey of educational and occupational aspirations of young men brings out the fact that the 14 to 17 year age group who are enrolled in school have very high aspirations which include college and professional or technical careers for the majority. However, their *hopes* are much higher than their surveyed *expectations* are.

School Enrollment Status, by Age and High School Curriculum: Males 16-24 Years of Age With Some High School, by Color
(Percentage distribution)

Age and school enrollment status	WHITES					BLACKS				
	Vocational	Commercial	College preparatory	General	Total or average	Vocational	Commercial	College preparatory	General	Total or average
16-17										
Enrolled	82	93	96	81	87	77	90	89	79	81
Not enrolled	18	7	4	19	13	23	10	11	21	19
Total percent	100	100	100	100	100	100	100	100	100	100
Total number (thousands)	347	68	1,251	1,239	2,960	63	21	98	270	461
18-19										
Enrolled	30	35	82	42	60	37	50	78	29	43
Not enrolled	70	65	18	58	40	63	50	22	71	57
Total percent	100	100	100	100	100	100	100	100	100	100
Total number (thousands)	213	80	1,202	1,019	2,592	39	13	66	158	288
20-24										
Enrolled	8	8	51	19	30	16	0	40	11	16
Not enrolled	92	92	49	31	70	84	100	60	89	84
Total percent	100	100	100	100	100	100	100	100	100	100
Total number (thousands)	363	149	1,717	2,330	4,627	69	15	104	368	575
Total 16-24										
Enrolled	41	35	73	41	54	43	51	67	38	45
Not enrolled	59	65	27	59	46	57	49	33	62	55
Total percent	100	100	100	100	100	100	100	100	100	100
Total number (thousands)	924	298	4,170	4,589	10,177	171	49	268	796	1,324

plain talk

George L. Brandon, Editor, Research Visibility

A NEW LOOK—A NEW PRESCRIPTION. *Research Visibility*, after the current run ending with the May 1970 issue is likely to have more than minor facial surgery for, optimistically, the years ahead. *RV*'s Advisory Committee (membership listed in September 1969 issue), while generally pleased with progress and impact, had violence in its heart as it examined the *RV* role of the future. Undoubtedly, the Committee's recommendations will have considerable clout with the *RV* staff and with AVA and the U.S. Office of Education, the sponsoring agents.

The September meeting of the Committee advocated the following changes in the content and procedure of the research reporting for a new functional *RV*:

1. The target group should principally be the teacher readership.

2. Research reporting should concentrate on strong pre-selection, synthesis, brief treatment, problem-centered research.

3. The synthesis should point up alternatives for action and general, creditable outcomes as they seem to be indicated by research.

4. The synthesis-application-dissemination theme of the past should be retained through construction and use of a model with a built-in self-correction technique for accountability and adjustment as the new series unfolds.

5. Continued survey of the readership should be conducted for determination of current impact and clarification for the future.

The new prescription, among many things, will require quick and drastic action on a new design; strategic timing to permit continued publication in the JOURNAL for 1970-71; careful examination of resources to review literature and synthesize desirable applications, and close coordination with AVA research mission and new role of research activity in the U.S. Office of Education. The new prospectus is not necessarily complex; quite to the contrary, the prescription attempts to simplify for an obvious pupose:

> *A new movement is gaining momentum throughout the realm of education today.* It is a movement toward perspective and synthesis, relevance and involvement, sensing and feeling, empathy and respect, wonder and adventure, and toward versatility and universality. Above all else it is a movement leading toward *simplicity* throughout the realms of education and research. (Jere W. Clark in *Systems Education Patterns on the Drawing Boards for the Future.* Center for Interdisciplinary Creativity. Society for General Systems Research, Washington, D. C. *Italics in the original.*)

More duplication in the training marketplace. It is the gross understatement of the year to assert that legislative support for occupational guidance and counseling is duplicated in the Vocational Education Amendments of 1968 and the deluge of manpower legislation. Impartial proponents of a guidance delivery system would argue that this condition is good—if a little guidance is good, is not much more of the process better?

If, however, provisions of the manpower legislation run true to form, professional guidance and counseling personnel in the schools may find themselves on the outside looking in. Vocational guidance, not unlike vocational education itself, is switching to one of the dual tracks being assigned to the American school. Perhaps the dual tracks have always existed for those of vocational or practical bent whose aptitudes and nature of intelligence never stacked up academically.

One has the uneasy feeling that a great segment of educators would abdicate the guidance and counseling function—particularly that aspect which is related to occupations—and together with vocational education delegate the unsavory process to an agency of government whose province and expertise are clearly not education. Obviously our proneness to adopt European organization and practice did not end in the nineteenth century; in fact, the proneness does little justice to the best in modern European thought and educational practice.

To quote a popular vernacular, education including vocational education must *get with it.* "Getting with it" means going on the offensive to eliminate any dual track system in American education regardless of the enchantment embodied in the consolidation and centralization of administrative responsibility. In reality the "getting with it" process may be too little, too late; American education, particularly that aspect of it which is vocational and occupational, has already gravitated to a *multiple* track since at least the advent of MDTA and 1962.

When it comes to the complete integration of vocational education into the total fabric of the American school, there is no escaping the impression that vocational education is becoming everybody's business—but it is always for the other person, or his children. For decades vocationalists have been accused of being highly sensitive and defensive of their programs in the schools of the nation. Who knows, perhaps the sensitivity and the defensive spirit may be the only saving grace remaining to keep American schools American.

High cost of intellectual snobbery. Current market price is $14 to $1 over the Federal counter. For every $1 spent on vocational education, $14 go for the Nation's universities. This recent price quotation is one of the facts published in the *Annual Report of the National Advisory Council on Vocational Education.* The total report is only four pages long, perhaps a new record for an auspicious national body whose commission embraces the new role of vocational education. At least, the four pages have a lot of vitality and revelation—both will be needed in the days ahead!

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"Source Data on Perceptions of Parents and Children Regarding Career Planning: Planning and Development of Research Programs in Selected Areas of Vocational Education, Volume II." Eleanor L. Norris and Vivian S. Sherman. American Institute for Research in Behavioral Sciences. Nov. 30, 1966. 218 pages. (ERIC # ED 010 624. HC: $8.72, MF: 36¢.)

"Engineering Technology Careers; Career Guidance Information for Engineering Technicians. Publication No. 1065." National Council of Technical Schools, Washington, D.C. 1966. 36 pages. (ERIC # ED 024 770. HC: $1.90, MF: 25¢.)

"Procedural Guide for Program Development in New Careers." Jacob R. Fishman and Shirley Terris. University

New Careers Research

Education Daily (Oct. 8, 1969) notes the major responsibility being undertaken by the Bureau of Research, Office of Education, in the development of "new careers" for paraprofessionals in education, health, social service, recreation, administration of justice, and other areas, and in the undertaking of new research programs in the field.

Among organizations mentioned as participating in research projects are the New Careers Development Organization, Oakland, Calif., and the YMCA of Metropolitan Chicago.

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"Educational and Occupational Adjustment of Wisconsin Male Youth." Bulletin 586. Walter T. Bjoraker and George W. Sledge. University of Wisconsin College of Agricultural and Life Sciences, Madison, Wis. January 1968. 30 pages. (ERIC # ED 028 286. HC: $1.60, MF: 25¢. Also available at no charge from Department of Agriculture and Extension Education, University of Wisconsin, 208 Agriculture Hall, Madison, Wis. 53706.)

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"A Description of Graduates of Two-Year Colleges." Leonard L. Baird, et al. American College Testing Program, Iowa City, Iowa. January 1969. 28 pages. (Available from Research and Development Division, American College Testing Program, P.O. Box 168, Iowa City, Iowa 52240.)

"Counselor's Handbook: I, Counselor's Interviewing Guides in Individual Appraisal: II, Counselee Appraisal Patterns Related to Fields of Work." Bureau of Employment Security, U.S. Department of Labor, Washington, D.C. 1967. 528 pages. (ERIC # ED 023 851. HC: $26.50, MF: $2.00. Also available from U.S. Government Printing Office. Price: $3.00.)

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"The Rehabilitation of School Dropouts in Oklahoma City: An Experimental Appraisal. Final Report." Victor O. Hornbostel, et al. Oklahoma State University, Stillwater, Okla. 196 pages. (ERIC # ED 021 979. HC: $7.92, MF: 75¢.)

DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility.* He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

JANUARY 1970

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PREFACE

What shall be learned and how?

RESEARCH VISIBILITY sections in the February 1968 and March 1969 issues of the JOURNAL have consolidated numerous research and development reports concerning the vocational curriculum. Of the nine national conferences on vocational and technical education sponsored by the U.S. Office of Education, one was devoted to curriculum development (see *A Guide for the Development of Curriculum in Vocational and Technical Education,* reported in this section).

One of the few sound assumptions that has been traditionally apparent and remains consistent is that the task of developing the vocational curriculum will never be accomplished. Obviously, this fact is true of the general education curriculum; the many dynamics at work in the world of occupations and employment compound the problems in vocational education. Many developments are encouraging and, hopefully, there may be some breakthroughs to produce the innovational in content and methodology. Nonetheless, the question of *seriousness* of intent should be faced up to by the professional vocational educator.

The brunt of the question seems to raise the issue of the extent to which professional effort and resources, financial and otherwise, will be devoted to needed curriculum change and adaptation of the future. No doubt, the totality of development and the degree of attention to it are fully dependent upon the professional viewpoint of the relevant purpose of vocational curriculum in the first place.

At this point in time, the professional challenge seems to be coming through loud and clear. If vocationalists in the schools do not pick up the curriculum challenge, there is assurance that others will do so: (a) the nature and amount of current manpower legislation on the Congressional drawing boards; (b) the rampant student discontent with educational irrelevancy; (c) the investment market which reflects the interests of the private sector in education and training; and (d) the general hue and cry for "a delivery system" which will accommodate American opportunity and services for all citizens who wish to acquire an adequate and meaningful vocational education.

Kenneth B. Clark, a psychologist of the Metropolitan Applied Research Center, admonishes the *business and industrial community* of the challenge in the context of *job training*. It is interesting to note his statement, "Also, the training must be real. Real training is not just job-skill training." He comments:

> If business is serious about developing training programs that are not tokens or gestures, however, it must prove by the nature of its programs and by their initial formulation and presentation, that its intent is genuine; the nature of the training must be shown to be an integral part of the jobs which allegedly exist and will be offered. Otherwise, pre-job training is not likely to be considered seriously by slum youth, who are suspicious and hypersensitive and who expect that promises will be honored.
>
> I suspect that the significant breakdown in the efficiency of American public education came not primarily from flagrant racial bigotry and the deliberate desire to create casualties, but from good intentions, namely, the sloppy sentimentalistic good intentions of educators to reduce standards in the education of low income and minority group youngsters, to leave them in a state of amorphousness and, thereby—on the grounds that teachers should not demand of these children what they demand of suburban children—make it possible for noneducation to be alibied. (Kenneth B. Clark, "Job Training—Need for Seriousness." *Wall Street Journal,* Sept. 25, 1969.)

An appraisal of sophisticated curriculum research. Curriculum researchers and professionals especially interested in curriculum theory on a sophisticated level should not overlook the *Review of Educational Research* of June 1969, (Vol. 39, No. 3). This issue devotes its entirety to curriculum and treats the following: history of thought and practice, influencing forces, materials, evaluation, methodological issues, and state of the field. The volume in summary and the state of the art are characterized by a concluding paragraph of John I. Goodlad:

> In brief summary, during the past decade significant progress has been made in the precise definition of curricular objectives, in the analysis of ends/means relationships, and in the effective ordering of stimuli for learning. Substantial progress has been made in extending both the understanding of the evaluative process and the use of evaluative data in diagnosing the possible causes of discrepancies between curricular expectancies and curricular accomplishments.
>
> In the realm of explaining curricular realities, however, we appear to know little more in 1969 than we knew in 1960. Curricular theory with exploratory and predictive power is virtually non-existent. The most eloquent plea of Schwab for correcting this condition directs our attention to the existential character of the curriculum: what it is, how it gets to be the way it is, and how it affects the people who partake of it."* (John I. Goodlad, "Curriculum: State of the Field." *Review of Educational Research.* Washington: American Educational Research Association. June/Vol. 39, No. 3, p. 374).

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* Joseph J. Schwab, "The Practical: A Language for Curriculum." Unpublished address, Annual Conference of the AERA, February 1969.

National Conference Report

Papers Presented at the National Conference on Curriculum Development in Vocational and Technical Education. (Dallas, March 5-7, 1969). University of California, Los Angeles. March 1969.

Melvin L. Barlow, University of California at Los Angeles, spoke on the "Intent and Purposes of Part I of the Vocational Education Amendments of 1968." After outlining the history of curriculum development since 1917, Dr. Barlow summarized the 1967 recommendations of the Advisory Council on Vocational Education. A summary of the contents of Part I of the 1968 Act brought Dr. Barlow to a closing statement in which he emphasized the job confronting the conference.

Alberta D. Hill, Iowa State University, Ames, presented "Training of Personnel in Curriculum Development." In suggesting a framework for training curriculum personnel, Professor Hill identified "basic assumptions underlying vocational technical curriculum and regarding curriculum leaders," reviewed competencies which curriculum personnel need, and applied a few principles of learning to the training of curriculum personnel.

Byrl R. Shoemaker, Ohio State Department of Education, discussed "The Development of Standards for Curriculum Materials." In outlining guidelines for the evaluation of the vocational education curriculum, he suggested that a curriculum should: (a) be organized around the student's goal; (b) be psychologically sound; (c) be experience centered; (d) cover skills, technical knowledge, work habits and attitudes, supportive educational services and evaluative techniques to analyze student achievement; (e) provide for individualized instruction, and (f) be allocated a major section of the student's day.

Gerald B. Leighbody, State University of New York at Buffalo, in presenting "The Future of Vocational Curriculum Development," emphasized that quality and new directions characterize the task of the future for vocational education. Professor Leighbody stated that vocational education "will have to rethink its purposes and realize that it can achieve its time-honored goals only by making them relevant to today's world and the fast-approaching world of tomorrow." New means for reaching goals, using new resources, are needed.

W. James Popham, Center for the Study of Evaluation, University of California, Los Angeles, discussed "Evaluation of Curriculum Materials and Their Use." Among criteria for evaluation of curriculum materials, he included content, cosmetics (packaging), and charisma. Stating that these criteria are completely inadequate for proper evaluation of curriculum materials, Mr. Popham described a "defensible criterion" as follows:

"The most defensible criterion by which to judge the adequacy of curriculum materials is the degree to which those materials, if used as directed, can consistently bring about desired changes in the behavior of the intended learners." To do this, a scheme for evaluating curriculum materials was suggested: designate objectives; assess learners; use curriculum materials; assess learners.

Louise L. Tyler, University of California, Los Angeles, presented "Current Trends in Curriculum Theory and Development." Issues, questions and ways of proceeding were outlined for objectives, learning opportunities and evaluation of curriculum development. Openmindedness was suggested regarding curriculum theory so that innovation will be facilitated.

Conference results were discussed further in nine regional clinics held in March and April, 1969. These clinics resulted in the publication of a *Guide for the Development of Curriculum*, which is reviewed in the following report.

Guide for Development of Curriculum

A Guide for the Development of Curriculum in Vocational and Technical Education. Division of Vocational Education, University of California, Los Angeles. June 1969.

This guide was the result of the National Conference on Curriculum Development in Vocational and Technical Education and nine regional clinics which followed it. Prepared for use by administrators, curriculum specialists, supervisors, and teachers at the State and local levels, the guidelines represent broad approaches to curriculum development problems which can be modified by each agency.

Recommendations are made regarding: curriculum development, dissemination and coordination; standards for curriculum development; special sources of curriculum materials; evaluation of curriculum and curriculum materials; professional development of personnel in curriculum activities; and national implications.

A bibliography is included in the guide, and appendices to the guide include "Governmental Agencies With Potential Resources for Vocational and Technical Education" and "Suggested Steps in Curriculum Development Modification and Improvement."

Occupational Analysis

Institute on Occupational Analysis as a Basis for Curriculum Development: Final Report. Milton E. Larson and Duane L. Blake. Colorado State University, Fort Collins. June 1969.

Participants from 47 states and Puerto Rico, representing all of the vocational services, attended this Institute on July 29-Aug. 2, 1968. Most participants were state supervisors of vocational education or teacher-educators. The purpose of the Institute was to help these persons aid teachers in "identifying, analyzing and converting to curriculum materials the skills and knowledges essential on payroll jobs."

Guest instructors presented topics and served as discussion leaders during four workshop sessions. The sessions developed the concepts of the zoned analysis approach, the use of the content analysis chart, building the course of study, and translating

analysis into instructional materials. Summaries of the major presentations are included in the Institute report.

Evaluation forms completed by participants on the final day of the Institute pointed to values obtained from the Institute, and a follow-up evaluation was conducted three months afterward. Detailed findings of these surveys are given in the final report. In general a feeling existed that the purposes of the Institute had been fulfilled and many new things had been learned that could not have been obtained from other sources. Future institutes were recommended, and suggestions for strengthening the program were made. Several participants reported taking immediate "steps to implement within their own state, area or district some of the concepts of analysis presented at the Institute."

Included in the appendices to the report are illustrations of materials developed by participants after termination of the Institute.

Shared-Time Concept for Area Vo-Ed Programs

Shared-Time Concept for Area Vocational Education Programs: Considerations for Curriculum Development. O. Donald Meaders and Abel Ekpo-ufot, Eds. Michigan State University, Department of Secondary Education and Curriculum, East Lansing, Mich. October 1968.

This is one in a series of four publications which are based on papers and addresses from workshops conducted by the Shared Time Concept Project—a project to survey existing shared-time programs in order to develop principles and disseminate information about such programs. The three other publications are *Community Factors, Practices and Procedures* and *Financing and Administering Area Programs.*

The four publications are "designed to present some views and practices relevant to the use of the shared-time concept as an arrangement for providing an educational program for students from two or more schools." It is hoped that they will stimulate thought and discussion of the shared-time concept by providing various views on considerations related to the concept.

A paper prepared by William Mellon, research assistant, and O. Donald Meaders, project leader of the Shared Time Concept Project, is entitled "The Shared-Time Concept: A Rationale for Equal Educational Opportunity." Two general patterns of organizational structure found in shared-time programs are explained: (a) the Area Vocational Education Center, which is a central facility designed to serve as a Department of Vocational Education for several participating high schools; and (b) a pattern of sharing of existing facilities wthin each school by cooperating schools. Problems, disadvantages and advantages to the establishment of these programs are offered for consideration.

An address which Chandos Reid gave at a 1966 Workshop on Shared-Time Area Vocational Education Programs at Michigan State University, is entitled "Considerations for Development of Curriculum for Shared-Time Concept Programs." Identifying shared-time program participants, establishing criteria for entrance into shared-time vocational education programs, relating general education to vocational education, developing student understanding of the world of work, planning a curriculum for change, relating programs in the schools, and helping students keep identification with the home school, are problems which Dr. Reid discusses.

In "The Three S's: Students, Subjects and Schools," an address to a 1967 Workshop, Dale Alam of Michigan State Unversity suggests means by which to guide the student into motivating experiences. The biggest problem which Dr. Alam envisions is "finding ways to help teachers see what is really important in terms of what society holds to be important."

Stan Whitman, after an address on "Guidelines for Vocational Guidance and Counseling," asserted that he saw the need for separate vocational counselors. Inservice programs for counselors is one means which he suggested for improving counseling service to vocational programs.

Extensive treatment is given the shared-time concept in a paper written by Urban T. Oen and Dr. Meaders. It is titled "Developing the General and Vocational Curricula." Basing their information heavily on shared-time concept literature, the authors give attention to the concept as applied to the small rural high school, advantages and disadvantages of the concept, and curriculum development considerations.

A summary of ideas presented in the various papers was written by Dr. Meaders. Factors which he enumerates as considerations in curriculum development for shared-time programs are:

1. Selection of students for the shared-time programs.
2. Educational experiences at both sites should be integral, not separate and unrelated.
3. All students should develop an understanding of the world of work.
4. Students should develop concepts of change and of becoming a part of change.
5. Extra-class activities may help students develop identification or "a sense of belonging."

In conclusion, while supporting the shared-time concept as a possible basis for a "truly comprehensive" high school curriculum, Dr. Meaders warns that "the concept may easily be perverted to become, in effect, support to a dual educational system."

ACT Announces Areas For Pending Research

Minority students in higher education, the two-year college, college student growth and development, and new services are the four major areas in developmental research which the American College Testing Program's Research and Development Division will concentrate on in the coming months.

In addition, three areas of research services—expanded program services to secondary schools and colleges, financing higher education and special research projects—will receive attention.

Specific projects to be worked on in each area are outlined in the October 1969 issue of *Activity,* newsletter of the American College Testing Program.

Innovative Aspects of Emerging Off-Farm Programs

A Study of the Innovative Aspects of Emerging Off-Farm Agriculture Programs at the Secondary Level and the Articulation of Such Programs With Technical College Curriculum in Agriculture. Joe P. Bail and William H. Hamilton. Cornell University, College of Agriculture, Agricultural Education Division, Ithaca, N.Y. February 1967.

With the field of agricultural education newly expanded by the provisions of Public Law 88-210 to include off-farm areas of agricultural training, it was deemed advisable to investigate existent courses in these fields for the purpose of extending their good points to new secondary curriculums. This project consisted of two phases: an assessment of innovative programs and of the factors which contributed to their success, and an articulation of these programs on the secondary and post-secondary levels.

It was the objective of the study to examine innovative features of programs in agricultural business, agricultural mechanization, ornamental horticulture, and conservation as they related to objectives, curriculum content, pupil selection, facilities, work experience, organization and administration, advisory boards and community acceptance.

Through visits and interviews at selected secondary schools in New York and Connecticut, common features of successful programs were found to be:

1. Depth and care in pre-planning involving professional and lay groups concerned in conduct of program.
2. Advice and counsel of State Education Department personnel.
3. A high degree of concern for practical application of skills learned in school in on-the-job situations. Work experience was held as highly desirable by the participants.
4. Extensive efforts to provide the new programs with adequate equipment and facilities.
5. Extensive use of community facilities and resource people in the conduct of these programs.
6. Efforts to continually inform the public through news media, exhibits and demonstrations.
7. Considerable attention to such items as insurance and liability, transportation and travel, scheduling, and other details so that these did not become major problems in the operation of the program.
8. In planning and operation of these programs, the use of an advisory group.
9. Laboratory costs assumed by the schools.
10. Provisions for teacher specialization.

These findings were disseminated to interested school systems throughout the Northeast.

Results of the second part of the study relate to the understanding and awareness which must be obtained by both high school and post-high school teachers and administrators regarding the other's programs. It is suggested that opportunities to meet and discuss programs of mutual concern must be provided through a formal structure which may be subdivided into major instructional areas. Through such a mechanism, overlap, duplication of offerings, building on one another's program, and improved use of tax money can be investigated. Responsibilities of each group (high school and technical college) must be clearly outlined by administration in order to obtain the best coordination of programs.

Appendices to the study include "Guidelines for Innovating High School Programs in Agriculture" and "Guidelines for Strengthening Articulation Between High School and Technical College Curriculums in Agriculture."

Directed Work-Experience Programs at Secondary Level

The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level. Harold R. Cushman, et al. Cornell University, College of Agriculture, Department of Education, Ithaca, N.Y. June 1968.

This project was directed particularly at the development, trial and evaluation of a new and different program of vocational education in off-farm agricultural occupations. A detailed manual of operational directives was developed by the investigators by synthesizing knowledge and experience gained from initial attempts at forming programs in this new field. The manual, *Tentative Guidelines and Procedures for Directed Work-Experience Programs in Expanded Education Offerings in Agriculture*, was used by teachers of vocational agriculture in 16 different schools.

The guidelines and procedures were used in work with students in their senior year of ornamental horticulture and agricultural mechanization programs, and consisted mainly of directed work-experience coordinated with school work by teachers.

During the period in which the guidelines and procedures were being used in the 16 schools, progress was evaluated by the project staff, and any problems were diagnosed and given attention. Evaluation was also provided by teachers, students and employers through questionnaires. Results of the questionnaires demonstrated decisive endorsement of the basic substance of the guidelines and procedures, thus giving base to a conclusion that this is an acceptable structural model for such new programs.

Results of the findings were used in revising the guidelines and procedures, and the revised directives have been published as *The Teacher-Coordinator's Manual for Directed Work-Experience Programs in Agriculture.*

Evaluation of the effectiveness of directed work-experience was accomplished through comparison of the performance of students in the trial programs with that of students in similar courses of study which did not use directed work-experience. Comparisons were made of employment experience during the senior year, curriculum-related job experi-

ence in the senior year, achievement test results, a test-measured work attitude, and proportions of students entering curriculum-related employment or advanced study upon graduation from high school. Differences in the two groups, except in the job-satisfaction/work attitude area, favored the directed work-experience program's effectiveness.

In regard to the effect of the *extent* of work experience upon criterion performance, it was discovered that negligible differences existed in the performance of high and low experience groups. These results were deemed to imply that self-determination by a student of the amount of work experience he will have is just as valuable, if not more so, as any imposed requirements might be. It was found that "encouragement, rather than enforcement of minimum requirements, sufficed to elicit a considerable level of perseverance in work-experience from students enrolled in programs affiliated with the study."

Production Agriculture

Basic Curriculum Guide for Production Agriculture in Texas. Texas Education Agency, Austin. May 1969.

This "Basic Curriculum" resulted from three meetings of a State Advisory Committee on Curriculum Development in Vocational Agriculture appointed by the Texas Education Agency in 1967. The committee, comprised of vocational agriculture teachers, teacher-trainers and Texas Education Agency personnel, met twice to draft a preliminary curriculum, which was distributed for use in Spring, 1968. Revisions of this draft curriculum resulted in the curriculum guide included in this report.

The curriculum is designed for a four-year program, but it may be adaptable to some three-year programs. While covering the areas of animal science, soil science, plant science, agricultural mechanics, agricultural management, supervised experience programs and records, and leadership, time is also allotted in the curriculum for "local adaptation"—additional depth or additional areas important to the community.

Topic Three: Business and Office Education Curriculum

See Bibliography for Information on availability of complete studies

Curriculum Renewal

A Planning Study To Determine the Feasibility of Developing a New Business and Office Education Curriculum. Final Report. Frank W. Lanham, The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, Columbus. June 1968.

This planning study was developed by a Business Education Study Committee of the National Business Education Association. The purpose of this committee was to lead representation from the total profession in the development of a new curriculum for business and office education.

In testing the value of a proposed new curriculum, four criteria of feasibility were used: (a) the plan was supported by professional leadership; (b) the plan evolved from available interdisciplinary thinking; (c) the plan provided a structure with profession-wide support and a feasible operational structure, and (d) dissemination and determination of disseminators, advocates, and acceptors were an integral part of the overall plan.

Curriculum renewal in business and office education was deemed feasible by the study, and a plan was drawn for implementation. The process of renewal in the plan is based on a "New Guide and Business Education Learnings (NOBEL) analog system model," which is described in the report. The next task will consist of development of a set of performance goals representing business and office job tasks. The investigators recommended that this next stage include development of training programs for performance goal development by practitioners.

A reference section is included in this report. Also, appendices include papers prepared by Edward J. Morrison, Albert A. Canfield, Dean H. Wilson, F. Carpenter, Harry Huffman, Geary Rummler, and Frank Lanham.

Topic Four: Distributive Education Curriculum

See Bibliography for Information on availability of complete studies

Appropriate Occupational Programs at Various Levels

Survey To Determine Appropriate Occupational Programs in the Field of Distribution and Marketing at Various Levels of Education, Final Report. Volumes I and II. Charles E. Peck and F. L. Denman. University of Washington, Seattle. January 1969.

The first volume of this report, "Relative Importance and Preparation for Distributive Education Subject Areas," seeks to "supply educators with basic information needed to devise improved instructional programs for career training in distribution and marketing." This information consists of personal characteristics, knowledge and skills needed by employees in these jobs in order to perform effectively, amount of instruction needed to acquire this knowledge and skill, and most effective plans for teaching these things.

Questions which the study attempted to answer included:

1. What knowledge and skills are most important for performance of marketing and distribution jobs?
2. What personal characteristics are most important for continuing employment in marketing and distribution jobs?
3. How do these knowledges, skills and characteristics differ in importance in the preparation of supervisors as compared to non-supervisors?
4. Do employers and employees agree about the importance and preparation of these items?

5. How many classroom hours are needed for learning of these items?

6. What should be the distribution between on-the-job and classroom taught skills?

7. Which personal characteristics may be molded by the school?

8. Where is the best place for personal characteristics to be learned?

In order to answer these questions, two surveys were conducted: one of personal interviews with businessmen and the other of mail questionnaires to D. E. teacher-coordinators. Seven areas of greatest importance in marketing and distribution jobs were revealed by the surveys: "job or product knowledge, human relations, personal characteristics, communications, mathematics, salesmanship, and internal organization and planning." Four areas designated as those of least importance were "marketing (excluding salesmanship), machines of business, economics, and bookkeeping and accounting."

As a result of the study it was recommended that:

1. Specialized job, product or service instruction be provided by extension programs.

2. Cooperative programs be continued in the curriculum.

3. Instruction in human relations be included in the curriculum.

4. Desirable personal characteristics be cultivated in students.

5. Background be provided in mechanical and receiving aspects of communications.

6. Instruction and drill be provided in thought-transference aspects of communications.

7. A background in mathematics be provided students.

8. Salesmanship instruction be provided.

9. Instruction include internal organizational relationships of firms and in company and departmental planning.

10. The *Dictionary of Occupational Titles*, rather than the *Standard Industrial Classification Manual*, be the basis for defining distributive education.

11. Evaluation of distributive education programs in each state be conducted through a survey of graduates and their employers.

The second volume, "Places to Teach, Time Requirements, and Teacher Preparation," presents results of a nationwide survey of teacher-coordinators regarding their views on places and length of time to teach certain subject areas and on their degree of preparation in them.

Conclusions drawn from the study were that adequate preparation in important subjects is possible in the average time of a distributive education program and that teacher coordinators feel adequately prepared in these subjects.

Recommendations based on these conclusions included:

1. Use of teachers from other disciplines for teaching certain subjects offered in the distributive education curriculum.

2. Placing of new emphasis on subjects best taught in the distributive education classroom.

3. Making of arrangements with employers involved in cooperative programs for development of "those personal characteristics best handled on the job."

Development of a Retailing Instructional System

Development of a Retailing Instructional System for Distributive Education. Kenneth A. Ertel. University of Idaho, Department of Education, Pocatello, Idaho; Washington State University, Department of Education, Pullman, Wash.; Idaho State Board for Vocational Education, and Washington State Coordinating Council for Occupational Education, Olympia, Wash. August 1968.

Noting that today's need in distributive businesses is for persons with capabilities with changing job patterns and requirements, this study undertook to devise instructional systems for assisting noncollege bound students in the exploration of requirements for entry into retailing jobs and with the acquisition of entry capabilities. Using results of other USOE-supported research studies, this project designed a system which would utilize the several senses through use of various educational media.

Through use of the various media for giving pupils access to information, increased teacher time is provided for individual instruction, and it is possible to adjust the program to individual learning rates. Schools which have insufficient curricula and personnel in distributive education should be able to increase offerings through use of this system.

As stated in this report, the primary purposes of this project were to:

1. Provide for more effective and efficient instruction in competencies essential for employment in the general merchandise retail field.

2. Allow for more individualized instruction.

3. Provide more flexibility in instructional programing.

4. Provide more youths with an opportunity for occupational education in distribution.

5. Provide an integrated multiple strategy approach to presentation of subject matter.

6. Provide continuous evaluation and feedback of results of student performance.

The three basic modes of presentation in the sub-systems of the system devised in this project were audio tapes, filmstrips and programed instruction. Nine sub-systems were developed within the system: Salesperson's Job, Qualities of a Salesperson, Customers' Buying Motives, Selling Process, Merchandise Information, Cash Register Operation, Stockkeeping, Retail Records, and Working With People. For each subsystem a linear-style programed instruction was produced. The means by which this instruction is performed is through booklets, teacher-pupil interaction, field trips, textual assignments, films, and sound-slide presentations. The teacher's role is "as a decisionmaker and a coordinator in the learning process."

Prototype components of such an instructional system were developed during the project, and testing of them was planned for the fall semester of 1968 by the Northwest Regional Education Laboratories.

Fellowship Program

Applications for the American College Testing Program's postdoctorate research fellowship program for Summer 1970 should be mailed to Nancy S. Cole, The American College Testing Program, Box 168, Iowa City, Iowa 52240, before Jan. 15, 1970.

Competency Pattern Approach to Curriculum Construction

A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education, Final Report, Volumes I-V. Lucy C. Crawford. Virginia Polytechnic Institute, Blacksburg, Va. December 31, 1967 and June 1969.

The primary purpose of this project was to "provide a foundation for developing a distributive teacher education curriculum." Volume I of this research report includes a philosophy of distributive education, the critical tasks of the high school distributive education teacher-coordinator, the professional competencies needed to perform the critical tasks, the technical competencies needed to develop identified competencies of selected distributive workers, and a cross-tabulation of competencies needed by selected distributive workers.

Volumes II, III and IV include the critical tasks, competencies needed to perform the tasks, and a cross-tabulation of competencies needed by workers in jobs in department stores, variety stores, food stores, service stations, wholesaling, hotels and motels, and restaurants.

These four volumes encompass what was called Phase I of the project. Phases II and III are reported in Volume V. Phase II consisted of the development of educational objectives for developing competencies needed by distributive education teacher-coordinators, and Phase III consisted of a National Dissemination and Interpretation Seminar in Distributive Teacher Education held in August 1968.

The objectives of the study were to determine:

1. The basic beliefs concerning distributive education.
2. The critical tasks in the job of the distributive education teacher-coordinator.
3. The professional competencies needed to perform these tasks.
4. The technical competencies needed by the teacher-coordinator to develop competencies needed by workers to enter and advance in a distributive occupation.

Data for the study were gathered through interviews with State supervisors of distributive education, teacher-educators, teacher-coordinators, workers in distributive jobs and their supervisors, and business leaders. A Distributive Advisory Committee comprised of nationally recognized authorities in personnel management assisted in the organization of interviewing materials.

In determination of technical teaching competencies needed by teacher-coordinators of distributive education, concepts and generalizations were first drawn from the literature by two members of a committee of consultants. Then, 400 interviews were conducted with workers in 76 jobs in 7 categories of distributive business to determine critical tasks of the workers. After competencies needed to perform these critical tasks were drawn from personal experiences of the investigators, these competencies were evaluated by seven distributive education teacher educators in terms of their importance for the high school DE teacher-coordinator.

Among results of Phase I of the study was the construction of a philosophy of distributive teacher education "which reflects the deliberative opinions of the leadership in distributive education throughout the nation." Also, 179 tasks regarded by respondents as being "critical" to distributive education teacher-coordinators were identified. Among these were 48 tasks in teaching, 25 in guidance, 39 in coordination, 29 in public relations, 33 in operation and administration, and 5 in total school functions.

Professional competencies were identified and classed under categories of teaching, guidance, coordination, public relations and operation, and administration. These competencies were evaluated as either knowledge, understanding, skill, or attitude competencies. Technical teaching competencies were identified; most of those competencies identified as being needed by distributive workers were also identified as being needed by teachers of distributive education.

Phase II's objectives, to construct and evaluate educational objectives to develop these professional and technical competencies needed by distributive education teacher-coordinators, were met by a committee of consultants who are experts in the field of distributive education teacher training. The resulting objectives were stated in terms broad enough to facilitate discussion of the objectives at the Phase III national seminar.

In Phase III a group of selected distributive teacher educators was brought together for the purpose of providing it "with an interpretation of the findings from the first and second phases of the study and to demonstrate, through individual and group participation, the process of curriculum development." An evaluation of the effect of the seminar performed six months afterward showed that many of the seminar participants were using the findings of the study in the development of curriculum materials and in the restructuring of existing courses.

Recommendations for further study include those establishing priorities in the total job of the distributive education teacher-coordinator and experimentation of ways and means of accomplishing educational objectives at various levels (teacher education, high school, post-secondary and adult).

Project Development

Regional Workshops on Project Development for Distributive Education Curricula. Harland E. Sampson. University of Wisconsin, Madison. December 1967.

Altogether, 52 participants attended two Distributive Education Project Development Workshops held in the summer of 1967 with the support of the U.S. Office of Education. The purpose of the workshops was to "expedite development and improvement in the scope and quality of project training in distributive education." Participants received training in professional distributive education and in technical business content.

Workshop activities were intended to "increase the effectiveness of selected distributive education personnel in designing projects, project plans and related participating experiences," through pursuit of the following conference objectives:

1. To prepare selected distributive education teachers and coordinators in the use and preparation of project education materials.
2. To identify and develop the structure of projects to be used by teachers in relation to career objec-

tives, units of study and individual needs.

3. To develop guidelines to implement the necessary relationships with the business community.

4. To examine patterns of evaluation and measurement during and following project training.

5. To gain appreciation of project purposes in terms of their application to realistic employment situations.

6. To identify resources available and their contributions to effective project training.

Workshop programs were divided into activities as presentations on distributive education, curriculum, and instructional procedures; presentations on business, marketing, and research; small group discussions and work sessions; workshop readings; individual preparation and planning, and reports, critiques and discussion of projects and papers. Each participant prepared a plan for disseminating workshop materials to D.E. teachers in his state.

Questionnaires completed by each participant upon termination of each workshop resulted in highest ratings for presentations dealing with projects, project development and implementing project programs. Lower ratings were given presentations dealing with business topics.

A follow-up of dissemination project efforts, conducted eight weeks after the last workshop, showed that 63 percent of all participants had presented information to teachers in their states through a major presentation of some sort. It was found that success of the dissemination effort depended upon participants' attitudes regarding the profession and regarding the project method, cooperation received by the participant from the D.E. state supervisor's office, and opportunities for sharing workshop material.

Recommendations made in this report for future workshops relate to the problems of dissemination of information regarding workshop activities, selection of participants, follow-up procedures, and announcement procedures for future workshops. In particular, it was recommended that model dissemination presentations should be developed during the workshops, and guidelines for dissemination should be provided the participants.

Group follow-up sessions for analyzing problems experienced in implementation of workshop materials were recommended, along with development of a national distribution manual for simplifying steps a teacher will use in developing projects. In addition, it was recommended that other audiences, such as business people, guidance personnel, administrators, and related subject teachers, be presented with the project development idea.

Food Handling & Distribution

Curriculum in Food Handling and Distribution: A Guide for Experimentation in High School and Post-High School Vocational Training. Philip G. Stiles, et al. University of Connecticut, Storrs, Conn. May 1967.

This study was conducted for the purpose of developing an experimental high school and post-high school curriculum guide in food handling and distribution. As a basis for construction of this guide the study first set out to "define the needs for vocational programs in food handling and distribution in reference to pre-employment and inservice training, to define the level and type of training needed by students and the special preparation needed by teachers and administrators in their programs," and to examine existing food handling and distribution programs and courses.

Data in this report, gathered through interviews with more than 200 food industries and associated individuals, cover the topics of tasks performed and opinions on educational needs. In addition, food handling and distribution curricula were obtained from institutions in Connecticut, and 13 institutions were visited for direct observance of facilities and programs.

Findings indicate that opportunities for employment in food stores in Connecticut are many, and that opportunity for advancement is high. Eighty-eight percent of food store managers and owner-managers interviewed during the study had been employed part-time while in high school, with most of them having worked as clerks. Seventy-six percent of the managers and owner-managers started their food store careers as clerks. Interviews revealed that approximately 97 percent of food store employees were satisfied with their work. Sixty percent of those interviewed felt that there was advancement potential in their jobs.

A need was expressed by those interviewed for more food-related courses in vocational schools, with competencies in the areas of human relations, mathematics, merchandising, marketing, salesmanship, product knowledge, business management, and accounting and bookkeeping being cited as vital knowledge needs. Placement training and/or on-the-job training was called for, and the personality trait most called for was "ability to get along and work with others."

The secondary curriculum in food handling and distribution proposed in this report has "general education experiences" comprising approximately 75 percent of the program. Also, part-time employment is suggested as a required learning experience. Learning experiences in human relations, accomplished through class sessions of students who are employed on a part-time basis, a unit of work incorporated in a marketing course, or a special course of human relations should be provided. A broad knowledge of food products should be given the students, perhaps through instruction from agriculture and home economics teachers. Finally, the vital areas of mathematics, merchandising and marketing must be included.

The proposed post-secondary curriculum would be directed toward those who are interested in managerial and supervisory positions in food handling and distribution. A minimum of 15 semester hours of general courses is suggested, along with 6-12 hours of food marketing and merchandising, 3-9 hours of product knowledge, including quality control, 3-6 hours of human relations, with emphasis on supervision, and occupational experience either before or during enrollment.

It is also suggested that offerings be made for adults who are currently employed as store personnel. These offerings would be especially valuable in the management areas, thus helping persons to advance in the field.

Suggestions are made in this report for implementing a pilot program in occupational education in a

particular institution or school district. The recommended factors to be included in such a program include:

1. Making a survey of local employment opportunities and/or training opportunities.
2. Organizing and meeting with an advisory committee which includes representatives from employers and employees.
3. Developing criteria which are to be used in selecting students.
4. Establishing courses of study and curriculum plans including work experience and practical laboratory experience.
5. Selecting teachers and/or coordinators.
6. Establishing policies and procedures for conducting and evaluating the program.
7. Involving faculty and parents to insure understanding of the proposed program.
8. Obtaining resources required.

This report makes suggestions regarding teacher requirements, school facilities, student selection, interrelationships of programs, and occupational experience. A suggested course outline is presented for a course in "Interpersonal Relations and Communications in Food Handling and Distribution." The objectives of this course would be to "assist students in gaining insight into and appraising their own and others' attitudes, interests, and motivations in terms of potential employment and advancement in food handling and distribution and to develop good working relationships with supervisors, co-workers, customers and others in community."

Listings of training aids, books, government and university bulletins, etc., are included in the report, along with course outlines for various food distribution and handling jobs.

Topic Five: Health Occupations Curriculum

See Bibliography for Information on availability of complete studies

School Program for Practical Nurses

School Program for Practical Nurses. Milwaukee Institute of Technology, Division of Instruction and Research, Curriculum Department, Milwaukee, Wis. September 1966.

This plan for curriculum revision in the practical nursing program was presented to the Wisconsin State Board of Nursing by the Milwaukee Institute of Technology Practical Nursing faculty. The main change which was proposed would make the controlling institution responsible for the total educational program from the time of recruitment and enrollment through graduation of the student.

The curriculum will consist of 1,243 clock hours of instruction divided into 1,356 periods of 55 minutes each. The program plan covers philosophy, objectives, organization and administration; the curriculum; faculty qualifications, responsibilities and functions; information regarding students, facilities and resources; records to be kept; evaluations to be made; and present and proposed cooperating agencies. Course summary sheets and outlines of instruction are included in appendices.

The program presented is a one-year program divided into two semesters and a nine-week practicum. Each semester is divided into three six-week periods. During the first six weeks of the first semester the student will be instructed in basic nursing for approximately three weeks and then will be introduced to working with patients in medical and surgical areas of participating institutions.

The second six weeks will consist of three days per week in the classroom and two days of increasingly complex clinical experience in the medical and surgical areas of the institution. The same procedure will fill the third six weeks, with the student learning to care for and administer routine medications to the acutely ill patient.

During the second semester the student will be given six weeks of experience each in obstetrics, pediatrics and mental nursing. The nine week practicum will include eight weeks of experience in the medical-surgical area on a team relationship with assistance from the instructor as needed. The last week of the course will be spent with mornings devoted to medical-surgical nursing and afternoons devoted to conferences with instructors and receiving assistance in making application for licensure.

Pittsburgh Project

Pittsburgh Technical Health Training Institute Demonstration Project, Volumes I and II: Final Report. Louis J. Kishkunas. Pittsburgh Board of Public Education, Pittsburgh, Pa. Dec. 15, 1967.

The focus of this research project was upon the development of a "model (short term) training program with all of its components so that future efforts in establishing training programs in the paramedical occupations in the Pittsburgh Public Schools might have a pattern to follow." The objectives were:

1. To test and demonstrate a flexible educational system.
2. To innovate teaching methods.
3. To reorient a flexible educational system.
4. To develop a physical plan for housing programs in a suitably equipped and staffed center.

These objectives were attempted through a six-phase research project. The first phase, that of conducting job analyses for the occupations of nurse aide, practical nurse and surgical technician, was the main base of the entire research project. These job analyses provided information on tasks performed, task procedures and task frequencies. Information for the job analyses was gathered through the use of job analysis checklists which were distributed to 1,174 employed public school graduates of nurse aide, practical nurse and surgical technician programs of the preceding two years.

The second phase consisted of determining training objectives from the job requirements. Tasks found to be frequently performed and considered to be important in the job analyses were analyzed and formed into a pool of tasks which were common to all three occupations. Sixty-one tasks found to be common were used as a basis for specifying educa-

tional objectives and constructing a core curriculum.

The third phase was an examination of personal characteristics which might affect student success in the training or on-the-job programs. Factors such as I.Q., reading level, age, highest grade completed, marital status, economic level, mobility, and length of time graduates remained in the program for which they received training were analyzed. The purpose of this phase was to tailor the programs to the needs of the typical student.

The fourth phase included five inservice seminars for orienting health institute instructors to the concept of a flexible educational system. The basic premise of the demonstration program was that of "activity-oriented, job-related materials and immediate reinforcement in learning." Lectures, illustration of materials by visual aids and opportunities to discuss and ask questions about the system were provided.

In the fifth phase a demonstration curriculum was developed and tested for the nurse aide program. Unit quizzes, examinations, worksheets, progress records, daily lesson plans, overall schedules, and a nurse aide handbook (*Basic Care of the Patient*) were developed. The experimental curriculum was shorter than the conventional course offered (six as compared with eight weeks), and involved methods such as roleplay, demonstration, group discussion, lecture, and supervised clinical work. The program was tested in the summer of 1967 with one class of students going through the experimental training course and another class taking the conventional course.

The sixth phase consisted of an evaluation of the nurse aide demonstration program. Evaluative instruments used included performance tests, three written examinations, student on-the-job evaluations, and supervisor on-the-job evaluations. In both performance tests and written examinations, students from the experimental classes rated higher than those from conventional classes. Student and supervisor on-the-job evaluations were about the same for both groups.

However, when teachers were asked to judge whether their students were ready to begin nurse aide work at the end of the six-week program, teachers from one hospital said that they believed the students were ready, and those from another hospital said that they did not feel the students were sufficiently trained in certain vital procedures. It was concluded that the program "was successful in reducing the training time and producing performances equal to or better than matched groups," and that this curriculum model is suitable as a pattern from which other paramedical training programs might be developed.

One problem which was encountered was that students in the reduced training program were not found to be as acceptable to employers as those who had completed an eight-week course. This could be a barrier to future innovative programs—"especially those requiring licensure and/or certification for employment."

Volume Two of the report consists of 24 valuable appendices providing examples of the technical behavior checklists, performance inventory forms, and typical job behavior reports used in the demonstration project. The core curriculum developed during the project, as well as lists of tasks common to the three occupations studied, are incorporated in the volume.

Topic Six: Home Economics Education Curriculum

See Bibliography for Information on availability of complete studies

Guidelines for Comprehensive Secondary School Program

Guidelines for Home Economics Education in Secondary Schools. State of New Jersey, Department of Education, Division of Vocational Education, Home Economics Unit, Trenton, N.J. August 1968.

This bulletin was developed as a "creative resource for local supervisors, teachers and administrators in the planning of home economics curricula that will serve students with varying needs, abilities, and interests." Although the primary emphasis of the guidelines is on preparation for personal, family and community living, preparation for the world of work is included in some of the learning experiences.

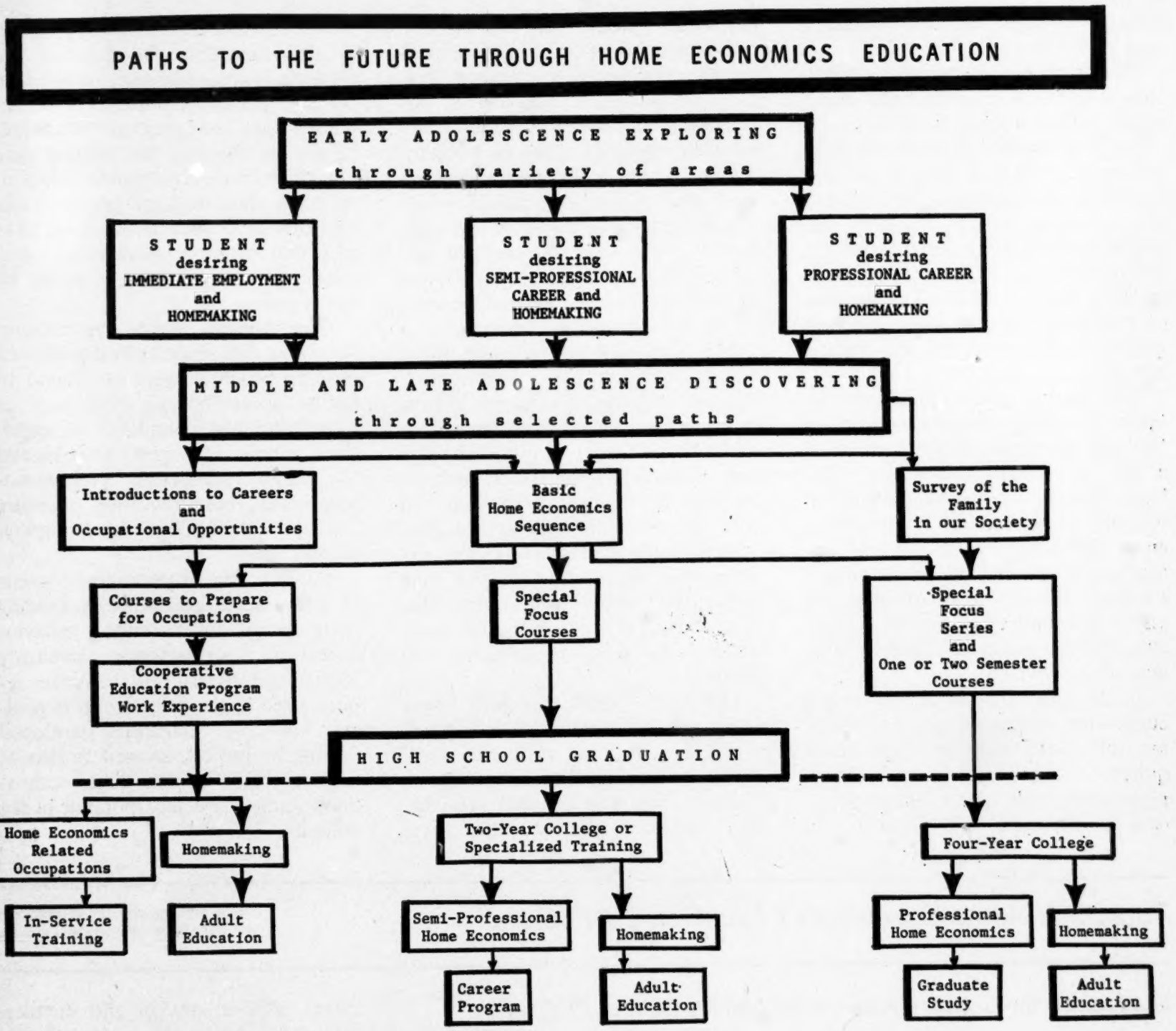
After presenting the goals of home economics education, the bulletin outlines the components of a comprehensive home economics program. Included among basic courses in home economics are: personal and family relationships; foods and nutrition; personnel and family economics; human and child development; textiles and clothing; housing, home furnishings, and equipment; home management and consumer education; and family health and safety.

"Special focus courses" include more specialized courses for persons who cannot take the entire basic sequence or who have an interest in one area of home economics. These courses are: family clothing and textiles; family meal management; housing, home furnishings, equipment, interior design and textiles; personal relationships; home management; preparation for marriage and the beginning family; the young child in the family; and consumer education.

The third component of a comprehensive home economics program is "Preparation for Home Economics Related Occupations," which includes cooperative work experiences. The diagram (see next page) from the bulletin illustrates a comprehensive home economics program.

A plan is presented for evaluating a home economics program, and guidelines for planning curriculum for home economics in grades 7-12 are outlined. Planning for needs of adults for continuing education courses in home economics is delineated,, with suggestions made for topics for adult classes. The second part of the bulletin is comprised of guides for developing teaching plans.

Next Issue . . . In February, *Research Visibility* will present reports on the topic of Accreditation and Evaluation.



Topic Seven: Technical Education Curriculum See bibliographical references

Topic Eight: Trade and Industrial Education Curriculum See bibliographical references

plain talk

George L. Brandon, Editor, Research Visibility

The vocational curriculum—elitist or pragmatic? An associate of the National Planning Association recently raised a simple but penetrating question with me. The question, by its nature, is one which I describe as the "hangover" type—a query which persists in bothering and annoying one's peace of mind.

In discussing the junior and community college of the future, its manifold role, its service to Americans, and the many expectancies we hold for its influence in vocational and technical education, my friend came up with the following: "What is (or should be) the role and function of the community college in the face of pressures and trends—will it be the provision of *elitist* general education or *pragmatic* career training for the 1970s?"

No doubt, the "hangover" characteristics which are disturbing are the words *elitist* and *pragmatic*. The question, omitting the community college implication, could well be raised with the purpose of any educational institution and with the instructional process wherever it may

be found. The question strikes at the core of the vocational program—the curriculum itself.

Generally, and omitting a fancy discourse of the pragmatic in education, vocational and practical arts educators have insisted upon programs and curriculums which provide students with *direct experiences*. Direct experiences as the basis for learning, an overworked simplification of the "learning by doing" concept, have probably cast most vocationalists as pragmatists. Other pragmatic influences and the use of many resources in the community at large have kept the program and the curriculum in the context of the real world and sometimes far removed from the schoolishness of academia.

By and large, the vocational educator can safely assume that his insistence on the experience-centered curriculum is not understood or appreciated by the generalist in education or the academician. The pragmatic curriculum and the learning theory which should accompany it, by comparison with other concepts, are complex to describe and rationalize. They have never been adequately verbalized by the vocational educator either to his educational associates or to students and their parents.

Probably the direct experience curriculum in education is expensive in its demand for facilities and equipment, although there are many alternatives to reducing the cost. But generally the prime objection to many vocational and technical education programs has been in their cost as compared with that of the traditional classroom. It is difficult to force oneself to believe that the cost factor of vocational and practical arts programs is chiefly responsible for the complacent attitude of educational administrators and their willingness to permit the program to be switched to another track outside the influence and control of the American school.

Interested in junior college research? Members and nonmembers of the American Educational Research Association (AERA) may have an opportunity to join a special interest group of the Association for research related to the junior community college. An initial organization meeting is planned for the AERA's annual convention in Minneapolis, March 2-6, 1970. Dr. Dale Gaddy of the ERIC Clearinghouse for Junior Colleges, 96 Powell Library, University of California, Los Angeles 90024, is consolidating memberships ($1 made payable to AERA).

Food for curriculum thought. The *Journal of Industrial Teacher Education* (Winter 1969 issue) is worth much more than the $5. annual subscription fee for its content of contemporary concepts of curriculum in industrial education. Matter of fact, the concepts and applications should be of interest to any teacher of vocational and technical education regardless of field of specialization. Included in the *Journal* are articles by (1) Yoho, "Systems Concepts with Implications for Industrial and Technical Education;" (2) Stadt, "Man and Technology in Secondary School Curriculum;" and (3) Pratzner, "Changing the Goals of Industrial Arts: An Occupational Development Curriculum."

Your subscription may be ordered from Prof. Howard McVicker, Department of Industrial Education, Building C, South Campus Courts, Purdue University, Lafayette, Ind.

Sources of publications about curriculums. An article in *Choice* magazine, "Nontrade Sources for Technical-Vocational Curriculums," lists sources of publications related to accounting; chemical technology; construction technology; electrical, mechanical and engineering technology; fire science; graphic arts and advertising; hotel technology; marketing; management; secretarial science; health services and others. If your library does not already have a copy, make inquiries of *Choice* magazine, 11 Riverview Center, Middletown, Conn. 06457.

bibliography

STUDIES REPORTED IN THIS ISSUE

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Topic Two: Agricultural Education Curriculum

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"The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level." Harold R. Cushman, *et al.* Cornell University, College of Agriculture, Department of Education, Ithaca, N.Y. June 1968. 158 pages. (ERIC # ED 022 911. HC: $6.40, MF: 75¢.)

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Education, Vocational Agriculture Service, Texas A & M University, College Station, Texas 77843.)

Topic Three: Business and Office Education Curriculum

"A Planning Study To Determine the Feasibility of Developing a New Business and Office Education Curriculum: Final Report." Frank W. Lanham. The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, Columbus. June 1968. 122 pages. (ERIC # ED 023 894. HC: $6.20, MF: 50¢.)

Topic Four: Distributive Education Curriculum

"Survey To Determine Appropriate Occupational Programs in the Field of Distribution and Marketing at Various Levels of Education, Final Report, Volumes I & II." Charles E. Peck and F. L. Denman. University of Washington, Seattle. January 1969. 584 pages. (Volume I ERIC # ED 027 428. HC: $20.25, MF: $1.50; Volume II ERIC # ED 027 429. HC: $9.15, MF: 75¢.)

"Development of a Retailing Instructional System for Distributive Education." Kenneth A. Ertel. University of Idaho, Department of Education, Pocatello, Idaho, Washington State University, Department of Education, Pullman, Wash., Idaho State Board for Vocational Education, and Washington State Coordinating Council for Occupational Education, Olympia, Wash. August 1968. 49 pages. (ERIC # ED 023 889. HC: $2.55, MF: 25¢.)

"A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education, Final Report, Volumes I-V." Lucy C. Crawford. Virginia Polytechnic Institute, Blacksburg, Va. December 31, 1967, and June 1969, 1,428 pages. (Vol. I, VT 005 973; Vol. II, VT 005 974; Vol. III, VT 005 975; Vol. IV, VT 005 976; Vol. V, VT 009 503. Scheduled to appear in RIE.

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"Curriculum in Food Handling and Distribution: A Guide for Experimentation in High School and Post High School Vocational Training." Philip G. Stiles, *et al.* University of Connecticut, Storrs, Conn. May 1967. 167 pages. (ERIC # ED 021 982. HC: $6.76, MF: 75¢.)

Topic Five: Health Occupations Curriculum

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ADDITIONAL STUDIES

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"Summer Institute To Prepare Vocational Educators in Curriculum Development." T. A. Ryan. Oregon State University, Corvallis, Ore. July 1968. 231 pages. (ERIC # ED 023 860. HC: $11.65, MF: $1.00.)

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"Automotive Mechanic Entry: A Suggested Guide for a Training Course." U.S. Department of Health, Education, and Welfare, Office of Education, Washington, D.C. 1969. 21 pages. (Available from U.S. Government Printing Office. Price: 35¢.)

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DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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PREFACE

Evaluation and the advisory process

THE PROFESSIONAL QUIP which is frequently overheard these days, "What is needed in evaluation is more evaluation on evaluation," despite its tail-chasing nature is not without strong merit. Periodically, *Research Visibility* has reported research and development activities of this nature. (See May 1968 and May 1969 issues.) This month, *RV* once again reports on the subject of evaluation with deliberate twist of implications of the evaluative process for advisory committees and councils—more broadly the cooperation of industry and education in appraisal. Relatively few studies highlight these advisory implications; in exercising its *synthesis* prerogative, *RV* holds up as exemplary a few efforts of this nature.

Accreditation—formalizing the evaluative process. The topic and activity in *accreditation*, at least as its appears (or fails to appear) in research literature, almost go by default. This is not to say that there is nothing afoot in accreditation. Far from it! One of the most encouraging new ventures to shape up in recent months is the AVA's project (with cooperation of the Office of Education and high-level involvement of numerous groups and agencies), *National Study for Accreditation of Vocational-Technical Education.*

This study will go forth in the context of research and development, and certainly not in the sense of creating an AVA accrediting agency or *accreditor*. To those who are even vaguely familiar with the monumental problems of vocational accreditation, the effort is imperative and long overdue.

The project is especially fortunate to have as its director, Lane C. Ash, former assistant director of the Division of Vocational and Technical Education of the Office of Education in Washington, D. C. As a life-long vocationalist with experience on many levels, Mr. Ash needs no introduction to professionals or programs. Inasmuch as the AVA project embraces all aspects of accreditation in all types of programs of vocational and technical education, the *RV* readership should be sensitive to its operation and importance, and take the necessary initiative to make its input. Details of the project should be requested from Mr. Ash at AVA headquarters.

Place of advice-giving in evaluation. Regardless of the extent to which advisory groups of many natures have been involved over the years in vocational education on all levels, the die is cast for their current role and that of the future. This fact is implicit in the general spirit of current legislation on many fronts; it is explicit in vocational education legislation. The prescription is not palatable to many administrators, moreso it is downright threatening to others.

Nonetheless, and in deference to professional opinion, the advice-seeking and advice-giving are here with more than a little degree of finality. One interpretation indicates that the advisory has become administrative and hence spills over into the making of policy. On the other hand, there is little escape from the professional question, "Why is the advisory counsel stipulated in law and regulation?" Professionals in every function and on every level of vocational and technical education can afford more than speculation with their answers.

In this month's report, at least three investigators (Samuel Burt, Harold Byram and the Rhode Island Staff) make distinctive efforts to employ the advisory function in appraisal. Many of the other studies report implications of involvement and various advantages of including advisory groups, at least on a team basis. No doubt, Samuel Burt, of the W. E. Upjohn Institute for Employment Research, is the ardent advocate of the industry-education cooperation theme. *RV* readers with special interests in this topic should request additional materials of Mr. Burt at the Institute, 1101-17th St., N.W,. Washington, D.C. 20036. Mr. Burt's ideas go far beyond the realm of theory as a result of his experiences and field testing in several of the States.

As a prelude to serious thought and professional activity in *accreditation*, careful review should be made of the Messersmith and Medsker study which is briefly abstracted this month. Basic problems and issues are examined, the role of the professional association is explored, and data from a survey of agencies approved by the National Commission on Accrediting are given.

Not unlike the formalization of the role of advisory groups in vocational education programs, evaluation for accreditation purposes will persist, become more pronounced and eventually generate clout on the teaching, coordination, administration, guidance and counseling, curriculum, research, and other aspects of the vocational and technical program. The clout will not miss the advisory process.

Curricula in Postsecondary Institutions

Problems and Issues in Accreditation by Specialized Agencies of Vocational-Technical Curricula in Postsecondary Institutions. Lloyd E. Messersmith and Leland L. Medsker. The Center for Research and Development in Higher Education. University of California, Berkeley. 1969.

The increasing number of postsecondary institutions providing vocational-technical courses leading directly to employment in the past few years has created problems relating to the accreditation of these institutions. Although the National Commission on Accrediting was established in 1949, little attention was given to the accreditation of vocational institutions, and professional associations have therefore begun to concern themselves with this function.

Problems arising from these activities are reflected in questions attacked by this study:

1. To what extent are specialized agencies now approving curricula in two-year colleges?
2. Is there evidence that specialized accreditation either inhibits or promotes the development of occupational programs?
3. Does the specialized agency have concerns related to standards and the level of training given by institutions?

For purposes of the study, materials were collected which described activities of accrediting agencies, legislation on the subject was reviewed, interviews were conducted, and questionnaires were developed and administered. The survey covered 43 two-year institutions, 5 professional associations and 6 regional associations.

Recent history and current status of specialized accreditation are delineated by the report in order to view the problems associated with this accrediting activity in the proper framework. Starting with a 1961 request by the American Association of Junior Colleges that the National Commission on Accrediting study accreditation of junior colleges by specialized agencies, and continuing through the problems engendered by the implementation of the Vocational Student Loan Insurance Act of 1965, the fears of two-year vocational institutions for their institutional autonomy are sketched out. The need for positive structuring of the accrediting process is expressed.

The accrediting function of the professional association is examined in depth, with a review of literature on the subject. A study made by the National Commission on Accrediting in 1961 is viewed for its present implications, and current accrediting activity by specialized groups in the community college is considered.

A survey in January 1967 of agencies approved by the National Commission on Accrediting found that of 17 agencies reporting, 5 were engaged in community-junior college level accrediting activities at that time, 4 had discussed the issue but had no plans for engaging in this activity within the next 5 years, and 8 had not even discussed the possibility of engaging in accrediting activity at the two-year college level.

Only about 12 percent of junior colleges listed in the 1967 *American Association of Junior Colleges Directory* had programs which were accredited by specialized accrediting agencies. Despite this low level of specialized accreditation activity, the American Association of Junior Colleges continues to oppose specialized accreditation at this level and to lean toward acceptance of only regional accrediting agencies.

Another activity of the study, that of determining the views of institutions regarding accrediting activities of specialized agencies, was carried out through administration of a specially developed questionnaire. The instrument was administered to three types of institutions: comprehensive community colleges with regional accreditation only, comprehensive community colleges with both regional and specialized agency accreditation, and special purpose institutions (technical institutes) with specialized accreditation.

Data gathered from the responses to the questionnaire indicated that the overall group did not feel that their regional accrediting association was appropriately organized and staffed to evaluate technical programs. Criteria used in evaluating vocational-technical programs were generally not considered appropriate. A majority of respondents agreed that institutions, such as area vocational schools and technical institutes, which are not presently eligible for accreditation, should be accredited by regional accrediting agencies. It was indicated that separate program evaluation carried out by regional agencies was the most desired course.

Several particularly important issues were studied, using data gathered during the project.

Issue Number I was, "To what extent are professional associations now approving curricula in community colleges? Has there been an effort on the part of these groups to accelerate their accrediting activity?" The answers to this question were derived from data gathered in the January 1967 survey and, summarized, were that specialized accreditation in two-year colleges had declined and that it was not about to be accelerated.

Issue Number II was, "Is there any evidence which indicates that specialized accreditation either inhibits or promotes the development of occupational programs?" It was not felt that accrediting agencies helped in program development, but it was acknowledged that better students are more attracted to an accredited program.

Issue Number III was, "Is there observable change in institutional autonomy as measured by modification of objectives or stated goals when specialized accrediting agencies are allowed to prescribe conditions or curricular patterns regarding program direction and/or staff utilization?" The study indicated that more autonomy is lost in complying with federal legislative requirements than in complying with accrediting agency specifications.

Issue Number IV was, "Do specialized agencies request conformance to conditions or standards which tend to place the institution at odds

with its own goals in such areas as student admission, performance of enrollees or employment of staff?" It was concluded that specialized accreditation was only one of the many reasons for which an institution might come at odds with its own goals.

Issue Number V was "To what extent are regional accrediting agencies assessing vocational-technical programs in their evaluation of the total institution?" It was decided that little attention was given to specific programs in the overall accrediting assessments made by regional agencies. It was agreed that the ideal situation would be for the regional agency to revise its criteria for evaluation and to add vocational experts to its staff for evaluation purposes.

Issue Number VI was determination of the magnitude and direction of the conflict among various forces in higher education. Indications show that the two types of accrediting agencies, regional and specialized, seem to reinforce each other, and a methodology should be devised which would allow the two to facilitate each other. Such a cooperative effort would also seem to reduce the workload now being duplicated in many instances.

Topic Two: PROGRAM EVALUATION

See Bibliography for Information on availability of complete studies

. . . in Vocational Agriculture

Evaluation of the Effectiveness of Using Specialized Instructors in Providing Occupational Training for Industrial Jobs for High School Vocational Agriculture Students. Roy W. Roberts, et al. University of Arkansas, Fayetteville. 1965.

This limited project was initiated as a result of problems encountered by senior vocational agriculture students of Magnet Cove, Arkansas, High School in finding training-related jobs after graduation. High school vocational courses did not prepare these young men for agriculturally related jobs such as agricultural mechanics. In order to change the curriculums to include such courses, it was necessary to find persons qualified to instruct in these areas.

The regular agriculture teachers were unfamiliar with the subjects, and so an experimental program was established wherein three special instructors employed in local industries taught for one hour each day for a six-week period. The special courses which they taught were blueprint interpretation, electricity and welding.

Nine high school seniors at the school were enrolled in these courses. The study centered around them was designed to determine whether or not (a) this training would assist the young men in making vocational choices, (b) the training would increase employment stability; (c) the apprenticeship training period would be reduced as a result of this training, and (d) the school dropout level would be reduced as the result of this training.

Evaluation and results of the experiment indicate success, although more time and follow-up surveys are necessary to determine whether or not some of the more long-term goals were met. University of Arkansas consultants found the course content and methods of instruction to be satisfactory, and officials of local industries expressed approval of the project methods. Students were interested and instructors were satisfied with student progress. The course reduced school dropouts and assisted students in making firm choices of occupations.

It was felt that this experiment might well be tried successfully in other schools with similar problems.

. . . in Business Education

The Status of Cooperative Office Education Programs in Michigan 1967-1968. Elaine Uthe and Betty Schroeder. Department of Secondary Education and Curriculum, College of Education, Michigan State University, East Lansing, Mich. April 1969.

This study was conducted to determine the status of cooperative office education programs in Michigan so that teacher-coordinators might compare their programs with others in the state and to enable teacher-educators to identify major problem areas in order to more adequately prepare teacher-coordinators.

A questionnaire mailed to 246 vocationally reimbursed cooperative office education programs in Michigan during the 1967-1968 school year yielded 175 returns which were compiled for this report. Possible problem areas which may be encountered by beginning teacher-coordinators were listed as: "(1) coordination of students on the job, (2) placement of student-learners, (3) instruction in the related class, (4) relations with the business faculty, (5) relations with the faculty in other areas, and (6) relations with the school administration."

Recommendations resulting from this study include that of formulating clear-cut distinctions between cooperative programs and work-study programs through development of criteria for each program. It was recommended that criteria for the cooperative office education program should include guidelines regarding:

"1. The related instruction portion of the cooperative program in terms of instructional objectives, recommended instructional materials and methods to maintain close correlation of job experiences and in-school learning experiences, and suggested facilities;

"2. The coordination portion of the cooperative program in terms of numerical ratio of student-learners to teacher-coordinator in order to provide adequate coordination time to accomplish program objectives;

"3. The qualifications of the teacher-coordinator to insure mastery of subject matter, ability to deal effectively with students and adults in various positions, and professional interest in the advancement of students and program, and

"4. The relationship of the cooperative method to the entire business program."

In addition, realistic experiences for future teacher-coordinators should be provided during their period of training, and prospective and beginning teacher-coordinators should have opportunities to attend conferences and meetings of teacher-coordinators. Supervision and assistance

should be provided the beginning teacher-coordinator during the first year by State Department of Education consultants or experienced teacher-coordinators.

Use of criteria for development and evaluation of programs is suggested as being necessary to the building of effective cooperative office education programs.

A Study of the Effectiveness of Summer Data Processing Institutes for Business Teachers. Lewis E. Wall. College of Business, Colorado State University, Fort Collins, Colorado. Aug. 31, 1967.

In order to assist teachers in acquiring the skills and knowledge necessary for teaching business data processing courses, five Summer Institutes in Business Data Processing for Teachers were held during 1963, 1964 and 1965. During all three years a first-year program was conducted, and a second-year program was conducted during the last two years.

The evaluations conducted during this project were designed to determine if the institutes have helped to alleviate the teacher shortage in business data processing, to obtain the participants' opinions as to the strengths and weaknesses of the institutes, to determine the effectiveness of the institutes in teacher preparation, to determine factors which may aid or deter teachers in continuing on as data processing teachers, and to evaluate the possible shortage of data processing teachers.

Results of data gathered from questionnaires administered to participants following their attendance at an institute or institutes demonstrated that the institutes were effective in alleviating the data processing teacher shortage and that they were effective in teaching these specialized courses to the teachers.

A questionnaire was also administered for determining the participants' views regarding the strengths and weaknesses of the institutes. Participants generally expressed satisfaction with the facilities used in the institutes (physical factors of the meeting rooms and adequacy of equipment). They also felt that an adequate number of courses was offered, that the content of the courses was adequate and that it was not too technical.

The number of instructors was generally considered adequate, although they felt that more "hands-on time" in the laboratories was needed and that scheduling of classes could have received a little more attention. The staff of the institutes was not endorsed as strongly as other aspects of the institutes. In particular, participants expressed a desire to have instructors devote more class time to teaching techniques. Methods of instruction used were given favorable ratings, and much enthusiasm was expressed for the subject matter.

More hesitation was expressed regarding whether participants felt qualified to teach data processing courses following participation in an institute, and even less confidence was expressed in their ability to organize a data processing program in their own schools. Questionnaire results indicated a desire for opportunities for more contact with other participants and with instructors.

Factors of age, prior work experience, prior educational experience, sex, degrees, and whether receiving subsistence while attending an institute were not found to have any effect on whether or not a participant persisted as a data processing teacher for a period of time.

A survey of the needs for data processing teachers in various types of institutions revealed that the demand for such teachers will become more pressing over the years, and that a great competition for teachers in this field will ensue, with salaries for competent persons being thereby increased.

Based on the findings of this study, it was recommended that the institute project be reactivated under Federal Government sponsorship. Also, assistance should be given to colleges in the development of business data processing teacher training programs.

. . . in Manpower Training

The AMIDS Program: An Appraisal of the First Six Months. William A. Broadbent and Bruce A. Reinhart. Division of Vocational Education, University of California, Los Angeles. 1969.

This report is the result of an appraisal carried out by the Research Center of the Division of Vocational Education, University of California, on the first six months' operation of the Area Manpower Instructor Development Sites (AMIDS). The appraisal consisted of two parts: a questionnaire sent to all participants in AMIDS seminars and interviews of approximately 10 percent of these persons. Data obtained by these two methods are included in the report. It was found that the most significant data were obtained through the interviews, and future evaluations are planned with only the interviewing technique being used.

AMIDS workshops were established in three cities, Detroit, Washington and Los Angeles, in 1968 for the purpose of increasing "the instructional competency and general awareness of the nature of relevant federal employment programs among Manpower instructors." The Research Center appraisal of the first six months' operation of the workshops and seminars of the program focused on characteristics of the participants and their reactions to the program.

A summary of the findings and conclusions indicates that although nearly two-thirds of the participants in the AMIDS seminars were instructors, a number of supervisory personnel too large to be justified in an instructor-oriented program had participated. A change of program emphasis may be indicated due to this fact.

It was found that instructors desired instruction in "job-seeking techniques" so that they might assist their students with placement. Another area of desired instruction was in dealing with the special problems of physically and emotionally handicapped students.

The most enthusiastic evaluations of the AMIDS workshop programs were received from participants having the following characteristics: (a) minority race/ethnic background, (b) relatively low level of formal education, (c) foreign language facility, (d) instructor role in Manpower, and (e) occupational instructor position. Obviously, the AMIDS program is meeting the needs of these people.

However, these social and demographic types are not the only ones for which the program is in operation, and much less enthusiasm and appreciation was expressed for the program by persons with the follow-

ing characteristics: (a) Caucasian race/ethnic background, (b) relatively high level of formal education, (c) English language facility only, (d) supervisor-administrator role, and (e) nonoccupational instructor position. It is suggested that separate workshops with varied curriculum be developed and offered for these persons.

Although two of the major subject areas covered in the AMIDS seminars were "understanding of the program" and "sympathy towards students," these remain as the greatest teaching weaknesses encountered by participants. At none of the teaching sites did participants feel their AMIDS experiences had resulted in improvement of their teaching skills.

In fact, "participants were generally unable to cite any specific teaching behavior that they had changed since attending AMIDS," and most felt that something other than the workshops had aided their inservice growth. "The only formal presentation by staff which seems to have made much of an impression was that devoted to discussing the Manpower Development and Training Act itself."

Responses from participants indicated that they felt their instructors and discussion leaders were competent and interesting. But, greatest benefits were derived from "sharing ideas and experience with other participants."

A result of these findings was the formulation of a set of recommendations for improvement of the AMIDS program. First, after redefining the goals of the AMIDS workshops, it should be determined whether or not large numbers of non-instructional personnel should continue to be invited as participants. If it is deemed desirable to do so, then the workshops should be made relevant to their needs, perhaps through establishment of separate workshops.

More emphasis should be placed on presentations and discussions covering "job-seeking techniques and trainee employment processes," and specialists should be enlisted to discuss problems encountered in dealing with physically and emotionally handicapped trainees.

In order to provide more meaningful instruction in specific teaching behaviors, it is suggested that "the AMIDS program should be reoriented towards identifying more accurately present weaknesses in the instructional methods of participants."

Finally, it is recommended that more attention and time should be devoted to discussions of basic social values and relevant vocational research findings which would help improve instructor effectiveness and the success of the entire Manpower program.

The AMIDS questionnaire instrument and the instrument which was devised for interviewing selected participants are included as appendices to this report.

Benefit-Cost Analysis of TAT Phase I Worker Training. Frederick C. Kirby and Paul A. Castagna. Training and Technology Project, Oak Ridge, Tennessee. July 1969.

This study was conducted for the purpose of determining costs and benefits both to the individual and to the Federal Government as a result of the time and resources invested during the Training and Technology Project Phase I. (See "Training and Technology: A Demonstration Manpower Development Project. Worker Training Program, Phase I" in *RV*, September 1969.)

For purposes of the study, 70 former TAT trainees were examined in comparison with 70 persons who had passed all tests for entrance to the TAT program but were not selected because of lack of space in the program. The benefit to the individual as a result of training was computed by comparing the amount of income he would have earned had he worked instead of entering the training program to the increased rate of income he will receive as a result of the training.

It was determined that, "for each dollar of income foregone by the trainee, he received $2.60 during his first year of post-training employment." Financial benefit to the Federal Government is based upon the amount spent on each trainee compared with the amount of estimated increase in income taxes to be received from each trainee in his lifetime. This return to the Federal Government was computed to be 20.5 percent, assuming a 3 percent annual rate of income growth, and 25.7 percent assuming a 6 percent rate (due to an annual inflation rate of 3 percent).

It is important to consider other returns on the investment of the Federal Government, such as having fewer numbers of persons on the welfare rolls, and the higher social status of the population. In addition, TAT provided the labor market with needed skills. These aspects, of course, could not be computed into the cost-benefit analysis, but should be considered in evaluating the overall value of the TAT program.

. . . in T&I Education

Development and Utilization of a National Vocational-Technical School Achievement Testing Program Using the Printing Trades as a Pilot Area. Dennis McFadden. Ohio Trade and Industrial Education Service, Division of Vocational Education, Columbus, Ohio. August 1967.

Preliminary investigations having noted the lack of instruments for evaluating the level of occupational preparation and for evaluating the effectiveness of various training programs offered, this project attempted to develop and validate tests for assessing the achievement of students in training programs in the printing trades. Such an evaluation instrument was deemed necessary because of the high cost of such programs at the secondary level, and the great waste which could result from ineffective programs.

The design of this project consisted of the development of an achievement test to be administered to twelfth grade printing trades students for measuring their technical knowledge and skills related to this trade. In addition, a job performance measure was developed for administration to graduates of printing courses who became employed in the printing trades. This test, given to the same students as the first, was administered eight to ten months after graduation. Results from the two sets of tests would be compared and used as an index for evaluation of the training program itself.

Specifically, the project attempted to measure student achievement by first defining "student achievement representative of the educational objectives for a vocational printing course at the twelfth-grade level," then selecting existing measures of

this achievement and developing additional ones, and finally by providing national standardization of an achievement test through administration of it to a group of students nearing completion of a twelfth-grade printing course.

Employee job performance was to be measured by first defining the mean job performance of recently employed graduates of the courses, then developing reliable instruments for measuring job performance, and measuring the job performances of those students who had been originally tested and who were now employed in the printing trades. The measures of achievement and job performance thus obtained would then be related to provide an index for evaluating the vocational printing trades course.

Through examination of the curriculums offered in the printing trades in secondary schools in Ohio, and through conferences with representatives of the International Graphic Arts Education Association, it was determined that two areas of achievement should be measured: knowledge and understanding of fundamental printing operations and ability to solve problems which arise in the printing industry.

For measurement of the knowledge and understanding category, the "Ohio Printing Achievement Test," a test already existent in multiple choice form, was adopted. Problems arose in devising a test of the second area of achievement which would meet requirements of administration time, adequate standardization and objective scoring. A "recognition type" of measurement was found to be usable in this area, and the "Ohio Printing Performance Test" was developed by the project staff for use in this area of achievement measurement. Both of the tests were given field trials.

In the second phase of the study, which was devoted to developing a means of assessment of job performance, behavior traits of job performance were selected through conferences with graphic arts industry representatives. The traits selected—dependability, safety, quantity, care of tools, resourcefulness, neatness, accuracy, industriousness, reaction to criticism, adaptability, communication skills, organization of work, technical knowledge, and job skill—were assessed for each vocational graduate who was now employed in the printing trades.

It was concluded that "the procedures, methods, and assumptions employed were adequate in providing for the development of valid and reliable achievement measures of vocational printing at the twelfth-grade level of instruction." Use of these achievement measures is considered possible in determining the effectiveness of the instruction, thereby "allowing for the improvement and maintenance of quality education in sound vocational programs."

Appendixes to the report include a suggested printing course outline, a job performance rating form, and a questionnaire administered to printing trades course graduates.

The Training of Tool and Die Makers. Morris A. Horowitz and Irwin L. Herrnstadt. Department of Economics, Northeastern University, Boston, Mass. September 1969.

Tool and die makers in the Metropolitan Boston area were selected for testing of a methodology for determining "the combination or combinations of education, training and experience which were most likely to yield highly qualified workers in a specific occupation." This occupation was chosen because of its importance to manufacturers and the short supply of qualified workers in it.

Of the 400 tool and die makers from 53 establishments in the area, most had followed one of six basic training paths. The percentage distribution of workers in each of these paths was:

On-the-job training	22.5%
Vocational high school	22.2%
Picked-up-the-trade	15.8%
Apprenticeship	14.2%
Vocational high school plus on-the-job training	11.2%
Vocational high school plus apprenticeship	9.8%
Miscellaneous	4.2%

It should be noted from these figures that the paths followed were diverse and that even the most formal methods of training were informal. Also, this is not an easily acquired trade: formal training had been taken by more than 80 percent of those interviewed. Subjects most often studied for use in this job were trigonometry, blueprint reading, use of measuring instruments, heat treating, machine theory, mechanical drawing, and tool design. These subjects were either studied outside or acquired on the job.

The effectiveness of each training path was evaluated in terms of "(1) the performance ratings given to the men by their supervisors, (2) the length of time spent in training, and (3) the amount of time the tool and die makers estimated it took them, from the start of training, after their formal schooling, to become all-around competent craftsmen, and to be classified initially as toolmakers and diemakers."

Differences in performance ratings among training paths were not statistically significant, although workers in the "vocational high school combined with apprenticeship" and the "vocational high school" paths had a somewhat greater proportion of better-than-average ratings. Neither apprenticeship, nor taking of part-time courses, nor even the failure to finish training seemed to affect the ratings.

This similarity of ratings for all training paths may be attributed to "the importance of innate ability and working experience, differences in the quality of training within paths, and the likelihood that successful training has characteristics that are unrelated to the formal structure of programs." Also, there may be an even distribution of trainees with like abilities entering each training path.

Average lengths for training periods varied for the different training paths. For example, "vocational high school" averaged 2.7 years, "on-the-job training" averaged 2.9 years, and "apprenticeship" averaged 3.4 years. The longest training period was in the path of "picked-up-the-trade" which lasted an average of 7.3 years.

Many more years of experience after training were required before men felt themselves competent craftsmen; a minimum of six years before they considered themselves competent toolmakers, and a minimum of eight years to be a competent diemaker. Individuals with vocational high school combined with apprenticeship required the shortest amounts of time before considering themselves competent all-around craftsmen.

The shortest routes to receiving classification as a toolmaker or a diemaker were through the paths of "vocational high school" and "vocational high school and apprenticeship." The foremen's ratings of their workers indicated that longer periods of training time did not contribute to performance.

Effectiveness of the various training paths was measured through foremen's ratings, the time needed to become an all-around craftsman, and the time needed to become classified as a toolmaker or diemaker.

The path of "vocational high school and apprenticeship" scored well on most of these measures of effectiveness. None of the paths was poor in all or most areas. It was found to be very difficult to determine the reasons for a good rating: age, years in the trade, years of job experience, amount of training, training path followed, etc., did little to back up a man's rating. Discussions with those in the trade point more to factors such as inherent talent for and interest in tool and die making.

An extension of the study was devoted to the questions of breadth of craftsmanship and the problems encountered in the transition from school to work in these trades. Certain paths of training were found to contribute more to breadth than others, but only "apprenticeship" in the case of diemaking was statistically significant. The more structured courses appeared to contribute more to the breadth of a man's skill. Time spent working at the trade also had some effect on the breadth of skill.

Because of the labor market demand for tool and die makers, students of all abilities and from all types of schools found employment, although those who had better-than-average abilities and who came from the better schools were more sought after. The boys most often located their own jobs, bypassing the inadequate occupational counseling services or using them as a last resort.

The conclusion of this study is that "comparing workers' training with foremen's ratings of job performance is a useful way to evaluate the effectiveness of particular training patterns, particularly if done on a longitudinal basis that includes a detailed description of the exact content and nature of a man's training and later work experience." In addition, a listing is made of the more significant implications of the findings of the study for government, training programs, secondary schools, unions, employers, individuals, and further research.

Topic Three: LOCAL EVALUATIONS

See Bibliography for Information on availability of complete studies

Cost-Effectiveness Study

A Cost-Effectiveness Study of Vocational Education: A Comparison of Vocational and Nonvocational Education in Secondary Schools. Ernst W. Stromsdorfer, et al. Institute for Research on Human Resources, The Pennsylvania State University, University Park, Pa. March 1969.

This report attempts to answer, through development of an appropriate theoretical framework and obtaining of data relevant to the framework, the question: "Should the United States invest more money in vocational education, given alternative investment opportunities in other educational curricula?" It is expected that the methodology formulated for this study can be used by federal and state agencies in conducting cost-effectiveness studies of education.

The cost-effectiveness method of evaluation was used in order to bridge the gap between evaluations which have centered on expenditures only, and those which have had as their main focus the fulfillment of objectives of various programs. The admission is made in the report that cost-effectiveness analysis has not yet been perfected, and inadequacies are duely noted in order to provide a basis for further research and experimentation. However, it is felt that the current amount of knowledge on cost-effectiveness is enough to begin with, and that this method is much better than decisionmaking through the old methods of "guess and intuition."

Three cities were selected for this study. Two cities have their secondary vocational-technical educational facilities concentrated in a vocational-technical school which is separate from regular academic high schools. The third city also has vocational-academic high schools where students may follow either a vocational or an academic curriculum.

Four main steps were involved in the study: "First, all costs and benefits were identified and representative data were collected. Second, the conceptual difficulties were resolved, where possible, and the appropriate criteria for investment decisions were determined. Third, the data were analyzed by statistical methods, and, by comparing costs and benefits, the return to the investment was ascertained. Finally, other related issues which might affect the analysis were considered." All costs, including marginal, total and average, were measured.

Cost data were obtained for the various city schools and school systems. Data obtained were not uniform enough to make cost comparisons between the cities, but cost-effectiveness analysis was possible with data obtained from two of the cities. Benefit data were obtained through questionnaires sent to a 1,-255 sample of 1959 and 1960 graduates of the high schools. Data on labor market histories, curriculum, sex, race, marital status, city of graduation, IQ measures, and father's education were obtained by this means. A copy of the questionnaire is included as an appendix to the report.

The most complete cost data were obtained from the third city—the one which has not only vocational-technical and comprehensive high schools, but also vocational-academic. Data obtained for this city included: principal salaries, teacher salaries, supervision and clerical salaries, educational supplies, free text and library books, other instructional expenses, operation, maintenance, administration, fixed charges, other services, and capital outlay.

In addition, data were obtained on physical characteristics of: (a) enrollment by grade, for selected

months; (b) median and average class size for selected months; (c) size distribution of classes, by course area, for selected months, (d) size distribution of teachers' salaries by teacher qualification; (e) average daily attendance and average daily membership; (f) number of teachers, and (g) number of classes.

Benefits measured included both labor market benefits and nonmonetary benefits. Labor market benefits are measured by the indices of "money earnings and the percent of time employed out of total time which could be devoted to civilian labor force participation." Variables measured for nonmonetary benefits were "training relatedness of the job or jobs held, overall career relatedness of the job or jobs held, and whether or not knowledge of the job or jobs came mainly from the high school or from some type of on-the-job experience."

Noneconomic variables which indicate the socialization effects of education were also measured. Three of these were: (a) "the number of clubs or organizations of which the graduate is a member at the time he was interviewed," (b) "whether or not the graduate voted in the 1966 primary elections," and (c) "whether or not the graduate voted in the 1964 presidential election."

Two most important tables of data were developed regarding economic benefits: "The Relationship Between Secondary Curriculum and Percent of Time Employed During the Six-Year Post-Graduation Period, by Sex" and "The Relationship Between Secondary Curriculum and Average Monthly Before Tax Earnings During the Six-Year Post-Graduation Period by Sex, in Dollars." (The tables are reproduced below.)

It should be noted that, while costs are generally more easily measured than benefits, the reverse is true for this study. This is due to the lack of usable data related to costs, and it points up the need for more efficient recordkeeping in cost-related matters if cost-effectiveness evaluation is to become effective.

The sample taken for this study implies that "vocational-technical education is an economically worthwhile investment for individuals and for society." However, "considerable refinement" is still needed of techniques used in this study and of the methods of recordkeeping by educational institutions.

Definite conclusions cannot be reached on the basis of this study alone, because of the limited data available from some of the sources. Should further studies arrive at conclusions similar to the preliminary conclusions of this study, however, more concrete conclusions may be reached. Thus far, the only conclusion which can even be provisionally made is that "for two, and possibly all three, of the cities which participated in this study, more funds should be devoted to vocational-technical education relative to non-vocational-technical senior high school curricula."

The Relationship between Secondary Curriculum and Average Monthly Before Tax Earnings During the Six-Year Post-Graduation Period, by Sex, in Dollars

Curriculum	Average Monthly Before Tax Earnings Over the Six-Year Post-Graduation Period			Average Monthly Before Tax Earnings for the First Year After Graduation			Average Monthly Before Tax Earnings for the Sixth Year After Graduation		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Vocational-Academic	419	292	315	324	239	254	482	274	310
Vocational-Comprehensive	476	243	283	354	248	264	556	191	253
General	434	228	326	315	210	260	533	179	347
Vocational-Technical	453	264	309	327	250	268	549	243	317
Academic	417	223	282	269	204	224	506	188	283
Total	444	250	300	316	238	258	536	217	299

The Relationship between Secondary Curriculum and Percent of Time Employed During the Six-Year Post-Graduation Period, by Sex

Curriculum	% of Time Employed Over the Six-Year Post-Graduation Period			% of Time Employed in the First Year After Graduation			% of Time Employed in the Sixth Year After Graduation		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Vocational-Academic	87.9	77.3	79.1	84.4	75.4	77.0	91.7	63.2	68.1
Vocational-Comprehensive	94.9	73.0	76.1	85.5	83.3	83.7	96.8	53.6	61.0
General	91.6	68.7	79.6	81.3	75.1	78.1	95.4	47.0	70.0
Vocational-Technical	93.0	75.5	79.7	84.6	82.9	83.3	97.7	62.6	71.1
Academic	90.9	66.3	73.7	75.2	69.2	71.0	96.9	48.2	62.9
Total	92.4	72.8	77.9	82.1	79.7	80.3	96.8	56.7	67.0

Evaluation Systems

Evaluation Systems for Local Programs of Vocational-Technical Education. Harold M. Byram. Michigan State University, East Lansing, Mich. October 1968.

This study, in which 10 Michigan school systems participated, was made to determine whether schools in the state were able to conduct self-evaluation of their vocational education programs "with emphasis on outcomes and attainment of local objectives, maximizing the use of local personnel and resources, and utilizing consultant leadership and related professional assistance."

A previous project had resulted in a systematic approach to local program self-evaluation which worked successfully in three test school systems. The objectives of this study were to:

1. Test the system further on the local level.
2. Identify new or improved procedures for use in local programs.
3. Establish an environment for personnel to learn evaluation procedures.
4. Delineate the role of consultants in program evaluation.
5. Identify potential research and development centers.

Two members of each school's staff were appointed to constitute a leadership team for working with the project leader. The Michigan State University Research and Development Program in Vocational-Technical Education staff and consultants from the Michigan Department of Education acted in an advi-

sory capacity on the project. Meetings were held to inform participants of the project objectives, to make plans for getting the project underway, and to work with them to identify particular problems needing attention of the project in their school systems.

A three and one-half day workshop and conferences were held in each school to follow up on the workshop in: (a) "setting local project objectives," (b) "developing broad outlines and/or steps in each local project," (c) "planning for the organization of local school staff and resources for evaluation." In addition, local schools were encouraged to conduct their own workshops for preparing local staffs in procedures used in the evaluation system.

Success of the project was analyzed through collections of data from the participating school systems and through interviews with local staff. The evaluation system was demonstrated successfully in nearly all of the participating schools.

Elements relevant to local program self-evaluation were revealed to be: "(a) administrative endorsement and support; (b) a local leadership team; (c) a program of local leadership preservice and inservice training; (d) an evaluation project plan; (e) a staff committee for evaluation; (f) staff time for evaluation; (g) objectives and curricular analysis; (h) advisory committees for assistance in the evaluation; (i) follow-up study of former students; (j) use of consultant help and instructional materials in development and use of evaluation instruments, and (k) adequate reporting of activities."

Suggestions emanating from the successful demonstration of the evaluation system during this project include that of extending the system to other school systems in Michigan and in other states. Use in other states would determine the generalizability of the system in other organizational patterns. Also suggested was that the system be tried out in community college programs of vocational-technical education and under other leadership, such as a state department of education or a research coordinating unit.

A manual, *Evaluation of Local Vocational Education Programs, A Manual for Administrators, Teachers, and Citizens,* was published in a second edition in order to include ideas tried out and found to be successful during this project. Appendices to the study include capsule descriptions of local projects, a project staff study entitled "The Role of the Consultant in Evaluation of Local Vocational Education Programs" and another titled "An Example of the Use of a Vocational Education Information Inventory."

NEXT MONTH . . . *Research Visibility* will present important aspects of the National Conference on Research held at Oklahoma State University in April 1969, and of the *Research Handbook for Vocational-Technical Education* which was derived from the presentations at the conference. Guest editor will be Dr. William Stevenson, director of the Research Coordinating Unit at Oklahoma State.

Program Analysis Questionnaire for Vo-Tec Education

Program Analysis Questionnaire for Vocational and Technical Education. Rhode Island Department of Education, Division of Vocational-Technical Education, Providence, R. I.

The rapidity of expansion of vocational-technical programs in Rhode Island resulted in a need for a means of evaluating these programs in order to make them more responsive to student needs. *The Program Analysis Questionnaire* is an instrument for analyzing all aspects of the vocational-technical program.

The questionnaire was developed by the Division of Vocational-Technical Education of the Rhode Island State Department of Education, through review of existing evaluative instruments, consultation with regional and federal offices of education, and contact with universities doing research in program evaluation. Guidelines for format and content of the questionnaire were consolidated from materials in use in several other states.

The questionnaire is divided into four major sections: administration and guidance, curriculum, physical facilities, and instruction. A three-dimensional approach to evaluation including "(a) self-analysis by local school administration and vocational-technical school staff, (b) analysis by evaluation team, and (c) analysis by industry representatives," was established.

In conducting an evaluation, the associate commissioner of vocational-technical education first identifies the particular program to be evaluated and names an evaluation team of Department of Education staff members. The team consists of a team leader, specialists in vocational guidance, curriculum and facilities, an area school coordinator from a school district other than the one being evaluated, and an academic educational specialist.

The local superintendent is informed of the purpose and procedures of the evaluation, and orientation and distribution of the evaluation instrument are carried out for local school personnel. Completed questionnaires are returned to the Vocational Division Office where they are tabulated and analyzed along with questionnaires completed by industry representatives for each occupational area and those completed by members of the evaluation team. Findings are reported to a local advisory committee and local school personnel, a final evaluation report is written, and recommendations are followed up.

Curriculum Materials

The Curriculum Section of the Division of Vocational and Technical Education, U.S. Office of Education, has compiled listings of curriculum materials which are available from States for each specialized area of vocational-technical education. Listings are available for Agricultural Education, Distributive Education, Health Occupations, Home Economics, Office Occupations, Technical Education, and Trade and Industrial Education.

In addition, an addendum covering all services and a list of instructions for ordering these curriculum materials are available. To order one or all of these listings, write to Mr. William Berndt, Curriculum Section, Division of Vocational and Technical Education, U.S. Office of Education, Washington, D.C. 20202.

The Teacher's Role

Vocational Programs in the Public Schools: The Role of the Teacher. Eleanor P. Godfrey. Bureau of Social Science Research, Inc., Washington, D.C. February 1969.

This report presents the major findings of a nationwide survey of 249 secondary and post-secondary schools, including comprehensive high schools, vocational high schools, vocational-technical centers, and junior or community colleges. Responses were received from 11,649 administrators, counselors and teachers. According to the report, "a major purpose of the study was to compare the backgrounds, training, and satisfaction with teaching of secondary and post-secondary academic and vocational teachers." In addition, the opinions of teachers, counselors and administrators were sought on various educational issues.

Separate questionnaires were administered to administrators, faculty and counselors. (Copies of these questionnaires are appended to the report.) Topics covered included the areas of school setting, teacher background and training, and teacher opinions.

Analysis of the school setting included a survey of course offerings. The major difference between offerings at the secondary and the post-secondary level was the increased variety of offerings at the post-secondary level. Secondary schools typically offered between three and five major programs, while a large junior college would offer six programs, including two (college transfer and health occupations) which are not found in secondary schools.

Enrollment patterns, the presence of work programs, and predictions of educational progression of students are discussed in the report. Regarding faculty requirements and inducements, it was found that the usual minimum educational requirement is a B.A. degree, and that recruitment and maintenance of an able faculty would be facilitated by better working conditions, facilities, and the ability to offer "merit pay."

Data gathered from responses to questions regarding teacher background and training indicate that most teachers have a B.A. degree and are continuing to upgrade this with inservice training and graduate-level courses. Although the median vocational instructor has five to nine years of full-time outside employment experience, the most frequent response to this question was that of no outside employment experience. Vocational teachers generally have fewer students per class, and fewer nonteaching duties. Most teachers expressed satisfaction with their roles as classroom teachers, with the major dissatisfactions being lack of planning time and poor administration.

Teacher opinions were polled on subjects of personal autonomy, adequacy of school services, curriculum emphases, and nine controversial policy issues in education.

An analysis of questionnaire responses was also made by type of school. In regard to the adequacy of the secondary curriculum, responses were very consistent in rating the major function of the school as above average, and the secondary function of the school as average. For example, respondents from comprehensive schools listed the academic program as above average, and the vocational program as average. The reverse was true of the vocational schools.

Post-secondary personnel in technical institutions rated their vocational program the same as the personnel from the secondary vocational schools—above average. However, this was not true for the vocational placement services, which received only an average rating, and a below average rating from 35 percent of the teachers. Ratings for junior college programs were good for both types of programs (terminal and transfer).

Curricular changes suggested for high schools would make the two programs, vocational and academic, more similar by adding more mathematics and science to the vocational curriculum and more mathematics and vocational training to the college preparatory curriculum.

Implications for policy change of the data gathered in this survey included the idea that further examination should be given the recommendation that "high schools should move toward a dual purpose in general curriculum." Changes which respondents suggested should be made in high school curricula and junior college degree programs "imply that all of the traditional requirements, particularly those instituted at the behest of the senior college, may not be necessary."

Further investigation should be made into the low ratings which were given student counseling and placement services. The respondents indicated that these services in their schools "have done a better job of meeting the demands of the labor market and of the colleges rather than the needs of the students."

Because most respondents stated that "the vocational major can make it in college, particularly if the standards for the academic component of the high school vocational program are raised," investigation should be made of revision of the high school program along a new curricular pattern. It is suggested that if this type of change were made, then *"formal* specialized occupational training would necessarily become the responsibility of the post-secondary institution."

A System for State Evaluation

A System for State Evaluation of Vocational Education. Harold Starr. The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. August 1969.

Presented in this report is an interim model for planning, monitoring, evaluating, and redirecting programs of vocational education. The model is derived from an as yet incomplete project, "The Development of a Model To Evaluate State Programs of Vocational Education." It has been presented prior to the completion of the major project so that it may be available in time for use by state staffs preparing plans and evaluation systems in response to federal requirements.

After careful consideration of two existent methods of evaluation, "traditional process evaluation" and "all-

inclusive data banks," it was decided that neither of these processes could supply the data which initial investigations had determined to be necessary for evaluation in the "current operating situation of the states." It had been determined that the need was for a system which would provide not only information for annual and long-range planning and redirecting of efforts, but that it must provide the accountability required by state and federal governments.

This system, therefore, was designed to provide "information essential for planning and for redirecting the programmatic efforts of state vocational education agencies . . ." and to " . . . provide decision-makers with information essential to the development of annual and long-range program plans."

A systems approach was taken in planning of the program, which required that: "(1) the evaluation problem be defined in terms of the purposes and expected outcomes of programs; (2) an information (measurement) system be formulated to provide the particular data required for evaluative decisions about program outcomes; (3) feedback mechanisms be provided to permit monitoring of the effectiveness and efficiency of the information system in providing significant data for decisionmaking; (4) an interpretive system be formulated by which information is analyzed and presented to decisionmakers in a format which facilitates decisionmaking; and (5) since the evaluation system is only one part of a total program-planning system, the evaluation system be capable of articulation with other components (PPBS, for example) of a larger program-planning system."

The first phase of the project consisted of the design of the model system and its field testing. First, the model system was conceptualized, with the major uses for the system being defined and a system being organized which would accomplish these purposes. Then, state agency program objectives and goals were formulated and "quantitative program goal statements which are used to assess achievement of the program objectives" were identified. Data which would be needed to determine success of a program were specified, and procedures for using evaluation results in developing program plans were developed. The model system was then field tested in states which were cooperating on the project.

After assessment of the field test results, a second phase was initiated in which a revised data system was formulated. This data system incorporated seven data-collection instruments, six of which are used to collect data from local sources. Among these instruments are a vocational program status form, a school information inventory, a specific program information data form for secondary and post-secondary instructional programs, a specific program information data form for adult instructional programs, and a data form in two parts used to obtain student characteristic data. The seventh instrument is used at the state agency level, and it is a collection of state division of vocational education evaluation and planning data.

These instruments were pilot tested, with the final testing being completed in December 1969. Following this pilot test a final evaluation model will be produced at The Center for Vocational and Technical Education and will be available for dissemination to potential users.

Volunteer Industry-Education Advisory Committees

Utilization of Volunteer Industry-Education Advisory Committees for Evaluating a State Vocational-Technical Education System. Samuel M. Burt, The W.E. Upjohn Institute for Employment Research, Washington, D.C. 1969.

This paper presents an outline and a criticism of the strategy and procedures adopted for one phase of a project conducted jointly by the State Department of Education of Arkansas, The Industrial Research and Extension Center of the University of Arkansas, and the Upjohn Institute under a grant from the U.S. Office of Education.

The project involved business, industrial, community and state leaders and decisionmakers in a process of "assessing the status and plans of the vocational-technical education system of the State vis-a-vis its economic development plans," and the phase studied in this paper is that of "dealing with the evaluation of the vocational-technical education system of the State by the advisory committees."

Eight Regional Advisory Councils comprised of representatives of industry and business (including community leaders, legislators and educators) were organized for the purpose of conducting school program evaluations and making related recommendations regarding economic development needs and plans. In addition, a State Manpower Advisory Council for Economic Development was organized for coordination of the work of the Regional Councils.

In order to provide Regional Advisory Council members with background information of the State vocational and technical education system, four papers were prepared for them by the project staff: "A Look at Arkansas High Schools and Their Occupation Education Programs," "A Look at Private Trade and Business Schools in Arkansas," "Industrial Plant Site Location and Vocational Schools and Programs," and "An Overview of Arkansas Student Enrollments, Course Completions and Expenditures for Federally Reimbursed Vocational Education Programs." A fifth paper, "Enrollments, Income, Expenditures and Programs: Area Vocational-Technical Schools in Arkansas," was presented and discussed at Regional Council meetings. The findings of these papers were translated in terms of the programs and problems of schools in the region of each particular advisory council.

Several meetings were held by the Regional Advisory Councils for review of findings, progress reports and preparation of recommendations relative to their region. A final report of recommendations was prepared for submission to the State Council. A final report was also prepared by the State Council and presented to the State Board of Vocational Education, with the expectation that the recommendations in the report would be given first priority by the State Board, the State Department of Education, the Governor's Office, and the State Advisory Council for Vocational Education.

The use of volunteer businessmen as an evaluative force for vocational-

technical education was demonstrated to be feasible by this project. With the assistance and guidance from the background papers and other materials provided by the project staff, workable solutions were obtained for some of the problems facing vocational-technical education in the community. It now remains to be seen whether or not these groups can continue in their work toward having their recommendations implemented.

Student Teaching in Home Ec

The Evaluation of Student Teaching in Home Economics: Final Report. Helen Y. Nelson and Joan Gritzmacher. New York State College of Home Economics, Cornell University, Ithaca, N.Y. May 1967.

The "critical incident technique" was used in this study to determine the performances resulting in effective or ineffective student teaching behavior and to construct a scale for evaluation of student teaching performance. The scope of this study was limited to student teachers in home economics, and cooperation was obtained from teachers, college supervisors and student teachers in 20 institutions from a number of states.

These groups submitted 563 critical incidents, of which 550 were usable. From these 550 incidents, 958 specific behaviors were obtained. The critical behaviors were constructed into a 112-item rating scale which was administered at the end of the student teaching period to students, teachers and supervisors. An opinionnaire sent along with the rating scales indicated respondents felt that this rating scale was better than the one they were presently using, and that it took less time to use.

It was concluded that the project had developed "a valid, reliable and useful rating scale . . . for the evaluation of student teaching in home economics." According to the report, this method could be successfully adopted for other fields and for other purposes.

Suggestions for further study in this area include that of training raters in use of the scale to promote uniformity in rating and to develop a rating scale whereby pupils may rate the student teachers. Also, the scale might be used in evaluating the performance of first-year teachers.

Copies of the rating scales used in this study and the opinionnaires which accompanied them are included in the appendices to this report. There is also a page of information which it has been suggested should accompany the rating scale in future use.

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plain talk

George L. Brandon, Editor, Research Visibility

Fun at acronym making? "Alphabet soup," a term which has been with us for several generations and which makes up a glossary of its own, particularly of governmental agencies and various projects, has its personal appeal and challenge as a gaming device, at least to the bureaucratic in soul. The Advisory Committee for Research Visibility numbers among its membership at least one person of the research bureaucracy nature who, after lengthy nonscientific study of the *RV* masthead which has traditionally stated its mission as SYNTHESIS / APPLICATION / DISSEMINATION, arrived at the brutal conclusion and accusation that according to his acronym *Research Visibility* is SAD.

Happily, the construction and deep insight which resulted in the accusing SAD acronym, and the acronym itself, were not shared by the committee other than through the humorous incident it provided during the review and appraisal of *RV* progress. Editorial policy insists that we share the anecdote with our readership; the name of coiner of the SAD acronym will never be revealed unless more appropriate punishment cannot be determined.

The "alphabet soup" incident does have its more serious side. What has been achieved by the "yellow pages" over their short history? What will be more successful in meeting the needs of the majority of AV JOURNAL readers which are related to research and development? What should be the target of the potential of readership as the AV JOURNAL is currently distributed to more than 52,000 readers? The Advisory Committee had many suggestions, too many to use and implement. These were shared with *RV* readers in a previous "Plain Talk" section. The prevailing suggestion that *RV* should zero in on the *synthesis* idea has come up for continued examination with a great deal of enthusiasm and expectancy.

Research synthesis and interpretation as new missions. In the minds of a working committee including a few members of the *RV* Advisory Committee (Aaron J. Miller of The Center for Vocational and Technical Education at The Ohio State University and Sidney High of the U.S. Office of Education), research results should be summarized and interpreted; interpretations should point the way for desirable changes to be made for more effective programs of vocational and technical education at all levels.

If all of this is possible (and there is a great deal of academic argument that it is neither posssible nor particularly desirable as viewed by various antagonists) there is an underlying assumption that in the first place practitioners are sensitive to change and their practices amenable to alteration. Hosted by Robert Taylor, director of the Center, with the generous assistance of Center staff Joel Magisos and Celianna Taylor, and William Stevenson of Oklahoma State University's Research Coordinating Unit, the working group drafted the dimensions of a new design for *RV* of the future.

The target group, then, is the teacher-practitioner readership of the profession, the over-riding majority of the AVA membership. Research and development results should be summarized and interpreted for their consideration and implementation. Essentially this fact assumes that a high degree of relationship will exist between the nature of the research which is investigated and

the realism of front-line operating problems in teaching and conduct of local programs.

Obviously, more communication and a more effective dialogue between practitioner and research-interpreter will have to be cultivated and maintained. The design of the new *RV* format will attempt to overcome problems of this nature and many others. Notwithstanding the difficulty of making *RV* reporting more functional in its "yellow pages" of the future, the still more difficult task of sampling and ascertaining readership interests will be confronted with new vigor.

No doubt, the *RV* editor's enthusiasm could be dampened by visions of a management monstrosity in the midst of the synthesis-interpretation syndrome, but the many desirable results of research utilization including program change and maximum benefit to vocational youths and adults dispel management problems, real and imaginary.

Do not expect the synthesis idea to show up in final form, subject to design and grantsmanship, before the September 1970 issue. But if you like the idea, or if you think it a total waste of time, paper and ink, let us have your reactions. You are the reader, it is your journal, and your ideas are solicited. If, even humorously, there is an element of SADness in *Research Visibility*, let's make it more functional—or get a new acronym.

Selected "must read" evaluation literature. The printing presses of the nation work overtime in producing the literature of evaluation including the analysis, philosophy and research related to it. The following might comprise a "best seller" list.

—National Society for the Study of Education. *Educational Evaluation: New Roles, New Means.* Ralph W. Tyler, Editor. Chicago: 5835 Kimbark Ave., 60637.

—W. E. Upjohn Institute for Employment Research. *Available pamphlets.* Washington, D.C.: 1101-17th St., N.W., 20036 (free)

—Educational Research Service. *Evaluating Teacher Performance.* Washington, D.C.: ERS, 1201 16th St., N.W., 20036. $1.50.

—American Educational Research Association, *Curriculum Evaluation Monograph Series:*

*1. Perspectives of Curriculum Evaluation
*2. Evaluation Activities of Curriculum Projects: A Starting Point
*3. Instructional Objectives
4. Research Strategies for Evaluating Training
5. Evaluation as a Tool in Curriculum Development: The IPI Evaluation Program

*Available now from Rand-McNally and Co., P.O. Box 7600, Skokie, Ill., 60680. Price: $2.00 (AERA membership discount: 30%)

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"Evaluation of the Effectiveness of Using Specialized Instructors in Providing Occupational Training for Industrial Jobs for High School Vocational Agriculture Students." Roy W. Roberts. University of Arkansas, Fayetteville. 1965. 57 pages. (ERIC # ED 003 101. HC: $2.60, MF: 50¢.)

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"Development and Utilization of a National Vocational-Technical School Achievement Testing Program Using the Printing Trades as a Pilot Area." Dennis McFadden. Ohio Trade and Industrial Education Service, Division of Vocational Education, Columbus, Ohio. August 1967. 132 pages. (ERIC # ED 016 850. HC: $5.36, MF: 75¢.)

"The Training of Tool and Die Makers." Morris A. Horowitz and Irwin L. Herrnstadt. Department of Economics, Northeastern University, Boston, Mass. September 1969. 424 pages. (CFSTI # PB 187 558.)

Topic Three: Local Evaluations

"A Cost-Effectiveness Study of Vocational Education: A Comparison of Vocational and Non-vocational Education in Secondary Schools." Ernst W. Stromsdorfer, *et al.* Institute for Research on Human Resources, The Pennsylvania State University, University Park, Pa. March 1969. 302 pages. (Available from the Institute for Research on Human Resources, The Pennsylvania State University, Boucke Bldg., University Park, Pa. 16802. Price: $5.00.)

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DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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GUEST EDITORIAL

VOCATIONAL RESEARCH
a coming of age

WILLIAM W. STEVENSON

Guest privileges of the month for the miniature editorial are extended to William W. Stevenson, director, Research Coordinating Unit of Oklahoma State University. As Research Visibility places the monthly focus on research and particularly that of the proceedings and product of the National Vocational Research Conference of 1969, there is no more appropriate commentator on vocational research and its faltering steps to maturity than Dr. Stevenson.

As a strong disciple of functional research and program change, conference pre-planner, contractor, "master of ceremonies," and evaluator of the 1969 Conference, Dr. Stevenson reflects on a new and functional ordering of priorities for practitioner and researcher alike. Of the basic value of research, he poses the eternal question, "Will it make a difference?"

RESEARCH in vocational-technical education is growing up—we as researchers have been and are still in a process of maturation. The evidences and effects of this still incomplete maturing are discernable in the work we do, the attitudes we express and the goals we seek. This editorial will attempt to gauge the progress, to chart the direction and to evaluate the results of this new look for vocational research.

For the purposes of this writing, I would define research in its most generic sense as a function, but not the whole, of planning and program development. This function includes the collection, analysis and interpretation of information and data for presentation to administrators at all levels to improve the decisions relative to vocational education. The research process should assist in (1) setting objectives, (2) developing procedures to reach those objectives, and (3) thoroughly testing and evaluating results. The objective or goal of this function is to facilitate change and improvement in vocational-technical education.

This definition, which admittedly runs the gamut from conception of an idea almost to implementation, is a part of the more mature concept which most vocational researchers have of themselves and their work. Further signs of research having moved from the "age of innocence" to the "age of accountability" are seen in the normal signs of maturity. (1) We have been able to establish our goals rather than trying to be all things to all people. (2) We no longer see our activities as the "center of life" but recognize that we are a part of a total system. (3) We have broadened our range of acceptance, but we have become more selective in what we accept.

The first sign of maturity, namely our recognition of our own limitations, is illustrated by the following reference. One of the primary concepts which came out of the National Conference on Research in Oklahoma City in February 1969 was the idea of "differentiated staffing." By this, I think we mean that we need different kinds of people for different jobs, or that the researcher should not be held responsible for all of the steps in the adoption process.

We are all aware—probably researchers more than others—of the problem of research being completed and put on the shelf. Although, as some have said, this may be the best place for some research, it is obvious that someone must find a way to get research which can contribute to program improvement off the shelf and into the classroom—*this need not be the researcher.*

We must find or train other people—other kinds of people—to perform the other functions in implementation. The machinery for translating research findings into a program plan requires much coordinated effort and a clear delineation of responsibilities among individuals in an agency. We must find ways to describe and identify the people capable of performing these translating functions, and we must develop procedures for facilitating the free flow of information within the agency and to its client schools.

The second evidence of maturity is our ability to view our function as researchers from a different angle. We have shed the "prima donna" complex in which all must be right for us. We have come down off the pedestal of pure and controlled conditions to wrestle with the real problems which must be solved in the administrator's office and in the classroom if vocational education is to be fully effective.

The theme of the upcoming National Conference of RCU Directors will be "The Role of the Research Coordinating Unit as a Support System for Vocational-Technical Education." At this point in time researchers are less concerned with changing the environment in which we work so that ideal conditions exist for research, but instead we are attempting to make our research a part of the everyday, problem-filled, decision-requiring life of vocational education. We are becoming a part of the system—a unique, sometimes irritating, questioning, abrasive part—but still a part of the ongoing, real life system of vocational education.

It may sound contradictory to say that we have broadened our range of

acceptance but have become more selective in what we accept, but the intent is to point out that we are now willing to take what those in other disciplines have learned and adapt it to vocational education. On the other hand, we are no longer interested in research for the sake of research—what we do must hold promise of giving us answers on how to do a better job of training for occupations. Research which does not speak to the solution of real and immediate problems is worthy of support by some agency, but for proposed state vocational education research, we must constantly ask the question, "Will it make a difference?"

This dedication to involvement in change, this recognition of a mission to point the way for improvement, this becoming a part of the system must elicit a response from the total body of vocational education personnel. The vocational educator must after sufficient trial and proving accept the introduction of innovative activities into the existing system. He must have the courage to try the unfamiliar, willingness to consider practices which have not yet been sanctioned by his peers, and strength to risk failure in a local unprotected setting.

If this innovative atmosphere is to exist there must be supportative and facilitating behavior by state staff. Finally, the renewing of the system of vocational-technical education depends in a large part on the imagination of the researcher, the ability of the change agent to translate research into action, the support of the state staff, and the creativity of the teachers.

This may not complete the team needed to renovate vocational programs, but it will hopefully eliminate some of the impulsive improvising of the past. Rapid response to new ideas through a truly innovative system may only come when we put teachers and research implementers together in a school system for the daily face-to-face, research input and problem feedback communication essential to change.

Proceedings: National Conference on Research

See Bibliography for Information on availability of complete studies

Proceedings: National Conference on Research, 1968 Vocational Education Amendments. Coordinating Unit for Research in Vocational Education, Oklahoma State University, Stillwater, Okla. April 1969.

The National Conference on Research, one of nine national conferences covering various phases of the 1968 Vocational Education Amendments, was conducted to determine "the increasing role of research in the development of local and state vocational-technical education programs and . . . the direction of research with . . . leaders who are vitally concerned with comprehensive programs in the field of vocational and technical education." The conference was followed by nine regional clinics and the publication of the *Research Handbook for Vocational-Technical Education*, which is abstracted in this issue of *RV*.

Objectives which were sought to be fulfilled by the entire three-phase project were:

1. To identify research needs in vocational and technical education for both the States and the U.S. Office of Education.

2. To explain and discuss new authorization, rules and regulations, and proposed guides for research in vocational education.

3. To develop techniques for effective coordination with local and state governmental and non-governmental institutions and agencies that have a concern for vocational and technical education programs.

4. To develop increased leadership capabilities for selective dissemination of research findings to supervisors, teacher-educators, administrators, and public school teachers.

5. To develop a guide for the organization of state plans for research and development with suggestions for integrating these plans by USOE with research funds available to the communities.

6. To give leadership in the development of annual and long-range program plans for research and development.

A paper titled "Strategies for Developing Model Annual and Long-Range Program Plans for 'Research' at State and Local Levels" was presented by Jerome Moss, Jr., of the University of Minnesota and Joseph F. Malinski of the Minnesota State Department of Education. Information which should be included in the plans and principles for making decisions was discussed, and examples based on the Minnesota application were provided.

As a factor in long-range planning, the role and function of "research" were investigated. After calling for better organization for innovation and change, the authors stressed that "the generation of new ideas, methods of determining what is useful, and accelerating the adoption of proven ideas may well be the greatest need of all in our education system."

These things can be carried out by a formalized research-related subsystem which would utilize as inputs such educational problems as discrepancies between (a) information needed and information available, (b) educational inputs and outputs, (c) existing knowledge and practice, (d) social values and realities, and (e) the relative position today in creating the future we would like.

Functions suggested for performance by the subsystem were illustrated in an "Educational Change Model" developed by Dr. Moss. The model can be found in a circular chart form in the report of the conference proceedings, in the *Research Handbook for Vocational-Technical Education*, or in *The Evaluation of Occupational Education Programs*, Technical Report 3, by Dr. Moss, published by the Minnesota RCU in September 1968. In brief, the functions are:

1. Conducting operational (applied) research for immediately applicable information.

2. Developing and updating curriculums and instructional materials.

3. Evaluating the effectiveness of occupational education programs.

4. Stimulating, facilitating and coordinating innovative research and development.

5. Inventing, engineering, produc-

ing, and evaluating prototype curriculums and materials.

6. Conducting applied research for long-range improvements.

7. Administering research-related grants and contracts supported by state-controlled funds.

8. Disseminating results of research-related activities.

9. Coordinating and conducting training activities.

It was emphasized that systematic improvement of occupational education practice depends on the performance of *all nine* functions. A brief description of the general nature of the activities associated with each function was presented to clarify the meaning of the functions. The necessity of designating specific persons or institutions to assume responsibility for the conduct of these activities on a continuing basis was underlined.

Organizing Subsystems

General principles for organization and administration of the research-related subsystem were presented. At the state level, it was suggested that the operational research and normative development activities might be conducted by the same persons, and would most profitably be closely linked with the planning, operations and management subsystems. The evaluation function would also be best linked to the operational program and normative curriculum development.

All of these activities, therefore, should be assigned to the vocational division of the State Department of Education. Also, a special staff within the vocational division of the State Department of Education should be assigned to supervise research-related projects and contracts made with other agencies and institutions in the state.

Other research-related functions, such as "(a) stimulation, facilitation and coordination of innovative research and development, (b) dissemination, and (c) research training" would best be performed outside the State Department of Education, perhaps in a Research Coordinating Unit or other environment which would foster new ideas and offer sources of information.

Formal research structures are not suggested for local or area vocational schools, although the need for personnel for these schools to be actively engaged in research-related activities is recognized. Research needs in schools with occupational programs should be supported through local budgets, and faculty participation in research activities should be encouraged. The State should make available to these schools research services including technical consultation, dissemination and research training.

Mechanisms are required for coordinating the activities of the research-related subsystem with those of other subsystems of occupational education and with other nonoccupational aspects of education. Such mechanisms should exist at the state level, between the state and local levels, and between the state, regional and federal levels. Coordination can be attained through use of annual research plans between agencies, advisory committees, statewide research plans, or through the efforts of a Review Committee appointed by the Research Coordinating Unit.

The Review Committee would "review and make recommendations about all individual research-related proposals requesting state funds, or being forwarded to the Commissioner, U.S. Office of Education, through the State Board." Coordination of state, regional and federal research activities can be accomplished through regional associations of Research Coordinating Units and through close relationships between the state organizations and the U.S. Office of Education.

Sources of Funds

Sources of research-related funds and the relationships between these various sources were discussed in the presentation. Both sources of continuing funding and terminal funding sources were considered.

Though the task of long-range planning is endless, annual planning is more specific. It is through annual planning that the research-related subsystem materializes.

A basic decision in annual planning regards the relative allocation of funds between research-related organizations (RCUs, Program Planning and Development Sections and Evaluation Sections) and individual projects (solicited and unsolicited).

Factors which may affect this decision include: (a) the need for maintaining at least a minimum of activity in each of the research-related functions at the state level; (b) the number and competency of individual researchers available in the state; (c) the need for "tooling-up" research organizations, such as research coordinating units, so that future research appropriations may be used most efficiently; and (d) prior experience in performance efficiency of various research organizations, taking into account "new opportunities and constraints likely to be imposed in the years ahead."

Another basic function of annual planning is determining activity priorities. It was proposed in this presentation that "the Research Coordinating Unit should have responsibility . . . to ascertain the level of intensity and the general direction or kind of activities that consumers of research-related products feel are needed in the state." Results of such a survey would be used as a guide in the selection of activities and in formulation of a priority list of activities. Techniques for a survey of this nature were illustrated.

Program Budgeting

Translation of proposed activities and projects into terms of estimated costs (program budgeting) is another aspect of annual planning. It was suggested that these costs "be estimated each year for the succeeding five years." Both organizational budgets and budgets for individual projects must be treated in this manner. In the budget, costs would be related to specific activities, and these activities would be related to organizational function. Remaining funds would then be allocated to individual projects by the Review Committee.

Implications of the subsystem proposed in this presentation include those which recommend that federal regulations should (a) encourage each state plan to contain one part which would deal with *all* nine research-related functions noted in this paper; (b) provide that the part of each state plan dealing with research-related activities shall be reviewed and approved by the Division of Comprehensive and Vocational Education Research in cooperation with the Division of Vocational and Technical Education; (c) permit the operation of more than one

(research) organization in each state. . . at the basic reimbursement rate of 75 percent; (d) permit a reimbursement rate of 90 percent for . . . (certain other) expenditures, and (e) permit transfer of certain funds by the State Board when such action is considered necessary.

A second implication of the subsystem is the need for its evaluation. The problem of evaluation was not attacked in the presentation, but some of the dimensions of the problem were outlined.

Relationships Between State and Local Programs

"Strategies for Correlated Interface Relationships Between the Total State Program and Local Programs of Research," a working paper presented by Gordon Swanson of the University of Minnesota, considered various options at local and state levels for including research in program plans.

Information provided by the background of the Congressional Committee Reports of 1968 to the "legislative mandate" in the 1968 Vocational Education Amendments was presented.

"First of all, Congress continues to place a high value on research in vocational and technical education. Although their appropriations have not measured up to their authorizations, their priorities for research are, nevertheless, substantial. Secondly, they are aware of the problems of staffing for research, a recurring theme in both the Senate and the House Committee Reports. Thirdly, they want research to contribute to existing programs as well as to new programs and new emphases. Finally, they want the research programs to be a part of plans generated at local and state levels as well as at the federal level."

A reappraisal of federal science policy by Donald Hornig, Presidential Special Assistant for Science and Technology, lends insight to interrelationships needed in a program of research in vocational education. Major unresolved problems as seen by Dr. Hornig fall into four categories: (a) research and the universities, (b) the nature of research support, (c) the appropriate mix of governmental agencies and educational institutions, and (d) the recurrent problem of achieving some balance and accommodation between the chaos of a laissez-faire system of federally sponsored research and some degree of central direction.

Dr. Hornig provides three guiding principles:

1. Decision-making should be pushed to the lowest responsible level appropriate to that decision.

2. There is a clear need for more systems analysis on a government-wide scale.

3. It is profitable and appropriate to employ both competition and careful planning in the realm of governmental and institutional activity.

Dr. Swanson outlined a structure of state and local programs of research in four dimensions:

1. *Research functions.* They include "research" (the object of which is to generate new knowledge) and "training" (the object of which is to recruit, train and retrain manpower necessary to undertake the various functions of research); experimental programs (in which there are experimental elements introduced in a controlled setting); developmental programs (in which materials, techniques, processes or implements are produced which will accomplish pre-specified objectives), and pilot programs (the object of which is dissemination).

A final function of research is the dissemination of information, which assists people to find what they are looking for and informs professionals about improved practices in their respective fields.

2. *Project and program support.* The difference between these two instrumentalities was described as project support being "time-defined" and program support permitting "the choice of alternative strategies during the course of the program of inquiry."

3. *Administrative devices employed*, including state, local and research coordinating unit plans.

4. *Research "program categories"* which describe the substantive content of the research undertaken. Among these will be found educational levels, target groups, curriculum emphases, educational functions, demographic characteristics, educational process characteristics, and others.

Three suggestions were made regarding the content of the state program: (a) it should contain statements of what we wish to know (research) and what we wish to be able to do (development); (b) it should contain the opportunity for alternative strategies and hypothesis for solutions to defined educational problems or priorities, and (c) it should address itself to a decision-oriented planning process by evolving a five-year plan.

Suggested guides for possible strategies in relating state and local programs of research were offered by Dr. Swanson. In brief, they are:

—Establish a research commitment at both the state and local levels.

—Place a program oriented research commitment in the state and local plans.

—Give attention to training for research and for planning.

—Employ a variety of models for emphasizing various strategies for research and planning.

—Avoid the temptation to research subsystems without looking at the system as a whole.

—Develop strategies for institutionalizing the research and development process.

—Expand present mechanisms and create new ones to accomplish research, development and training.

—Establish a strategy for complementarity among the various research, development and training stimuli within each state.

—Encourage the production of research and development *from* as well as *dissemination to* the local education agencies.

—The research thrust of vocational education will be guided by what is omitted from state and local plans as well as what is included.

ERIC Publication

A monthly companion piece to *Research in Education, Current Index to Journals in Education* (*CIJE*), is now being published. *CIJE* will provide indexing for articles published in more than 200 journals in the field of education and related areas.

Manpower Needs, National Goals and Research Priorities

A presentation on "Manpower Needs, National Goals and Research Priorities in Vocational-Technical Education" was made by Leonard A. Lecht, Center for Priority Analysis, National Planning Association.

Underlining the fact that the 1968 Amendments demonstrated an interest in reordering priorities through "more effective planning to relate state and local vocational education programs to the anticipated manpower requirements and job opportunities at the national, state and local levels," Dr. Lecht said that this shift in priorities will be implemented by a search for new research strategies in vocational education.

As a result of the inequities in today's society—the differences between the overall affluence of the nation and the poverty of some of its urban areas—"relevance" and "priorities" have become the basis for vocational education planning. This basis raises the question: "What are the research strategies which can enable us to translate manpower information into vocational programs?"

Answers to this question require that a bridge be built between economists and vocational researchers and decision-makers. Although cautioning against complete reliance on manpower projections, Dr. Lecht noted that these statistics "can be useful in indicating strategic areas of change to be taken into account or the implications of alternative developments for the economy for manpower utilization."

Dr. Lecht proposed a "change agent" for the relationship of manpower needs and vocational-technical education. This agent is a new perspective "concerned with the impact of the pursuit of national goals for manpower needs and for education." After noting that the pursuit of the nation's goals can affect manpower requirements by increasing manpower needs in the occupation associated with the goal, he described an ongoing project of the National Planning Association dealing with national goals in 16 areas of the economy.

Career opportunities in the next 10 years are expected to grow especially fast in the professional, technical and services occupations as a result of the national goals set for the fields of health, education and research and development. Estimated manpower needs in the 1970s for the goals in health and education and urban development are illustrated in the top table.

Estimated Manpower Requirements per Billion Dollars of Expenditure in 1975 for Selected Goals[1]
Number of Employed (in 000's)

Occupational Category	Health & Education Goal	Urban Development Goal
White Collar Workers	64.0	34.7
Professional and Technical	45.5	8.5
Managers and Self-employed	2.5	10.3
Clerical	13.3	12.2
Sales	2.7	3.7
Blue Collar Workers	15.8	53.7
Craftsmen and Foremen	6.9	27.4
Operatives	7.2	17.7
Laborers	1.7	8.6
Service Occupations	22.4	3.7
Farm Occupations	0.7	1.1
Total	102.9	93.2

[1] Refers to final demand expenditures in 1962 prices.

Estimated Distribution of Employment by Level of Educational Attainment in 1975 for Selected Goals

Years of Schooling Completed	Percent Distribution of Employment	
	Health & Education Goal	Urban Development Goal
Less than 4 years of high school	26.0%	43.0%
4 years of high school	29.0	35.5
1–3 years of college	14.5	12.0
4 years of college or more	30.5	9.5
Total	100.0%	100.0%

Depending upon which of our national goals we pursue, job opportunities would be available for persons with differing levels of education. The second table illustrates differences in the educational levels required should the nation decide to pursue either a health and education goal or an urban development goal.

Pursuit of the urban development goal would involve large numbers of persons with an educational level of four years of high school or less, and would depend heavily on high school vocational programs for training of manpower. In contrast, the junior colleges would be heavily relied upon to supply the manpower for the pursuit of a health and education goal, as many of the workers for this goal would be on the subprofessional or technical level.

Noting that state and local planning in vocational education is an important dimension of the overall planning to upgrade the income and status of persons in the "left out" groups in the nation, Dr. Lecht illustrated the potential for planning vocational education programs for creating careers for the disadvantaged.

He expects more jobs for these disadvantaged groups (non-whites) in a situation of high priority for health and education programs than

when priority is given to urban development or other programs. Should priority be given programs of urban development, it would be necessary to expand and upgrade vocational-technical programs in trade and industry and technical fields in the urban areas where admission might be granted to white, non-white and low-income youths.

In concluding, Dr. Lecht raised the question of whether or not the planning required by the 1968 Amendments will meet the needs of the urban and rural vocational schools and programs. Also, he described the problems posed in attempting to use the national manpower projections which are currently available in making state and local vocational program plans.

The need for state and local manpower projections in order to plan effectively at these levels was expressed, and the problems in preparing these projections were enumerated. Although there are gaps in manpower information, asserted Dr. Lecht, the need for planning is not diminished. Rather, the certainty with which we can plan is diminished, and a challenge is presented to make "vocational education more relevant in the society in which technology, needs, aspirations, and career opportunities are rapidly undergoing change."

Appendices to Dr. Lecht's presentation included tables of "Expenditures for Individual Goals, 1962 and 1975" and "Estimated Manpower Requirements for Individual Goals in 1962, and for Aspiration Goals in 1975," with goals for 16 areas of the economy represented.

(Another article on the subject of Dr. Lecht's presentation, "Planning Vocational Programs To Meet National Goals" by John B. Teeple of the Center for Priority Analysis at the National Planning Association, may be found in the Nov. 1969 AVJ.)

Information Services for Improvement of Vo-Ed

The need for "Information Services for Improvement of Vocational Education" was discussed by Thomas D. Clemens, Federal Executive Fellow, The Brookings Institution. Mr. Clemens felt that in order to improve education through research, development and diffusion of scientific knowledge, the development of a multi-level technical information system is necessary.

Such a system would consist of a "systematic organization of resources for acquiring, screening, processing and disseminating the information contained in a corpus of data and documents in order to make the results of research, development and current practice available to educational improvement."

The system could provide:

1. The basis for more rational problem-definition, policy formulation and decision-making.

2. Intellectual resources for implementation of such policies and decisions.

3. Specific information required for performance of continuing educational operations.

4. Verifiable, reproducible information of use in evaluating program operations.

Clemens first gave an overview of what can be learned from other fields regarding the transfer of technical information. Drawing from the "diffusion literature" studies of Everett Rogers and Ronald Lippitt, he described the "adoption process" of five phases and the sources of information from which the potential adopters derive their information during each of these phases.

- The first phase is described as the *awareness phase*, "in which the potential adopter learns of alternatives to his current practices." During this phase his information usually comes from the mass media.
- The second, or *interest phase*, is one in which further information is sought for the alternatives. Information for this phase is generally of the interpretive variety and is obtained from practitioners or documents from the source of innovation.
- An *evaluation phase*, when an "in-the-head" assessment of the relative advantage and appropriateness of the innovation is made, involves information received through personal communication.
- The *trial phase*, in which the innovation is tested on a limited basis, also relies on this type of communication, although special "packages" of interpretive information have been shown to be valuable.
- The final, or *adoption phase*, is that in which full scale, operational use of the innovation is involved.

Another mode of transfer of technical information is "information science." Various approaches of information users were described: the *current, everyday, exhaustive, brush-up,* and *browsing* approaches. Three generalizations regarding the use of information systems were made: (a) that an effective information system must provide a variety of information products, not only for different segments of the clientele, but for the same client at different stages of his work; (b) that the closest and most accessible information source is the first used and the most frequently used . . . however, his acceptance and application of the information is influenced . . . by . . . its . . . technical quality, and (c) that person-to-person communication is the preferred information source.

The relevance of these generalizations to education was based upon a study which attempted to identify the preferences of public school teachers and principals for various characteristics of information systems. In order of preference, these characteristics were: (a) ease of access to the system; (b) currency of information; (c) comprehensiveness of coverage of sources; (d) speed of service; (e) evaluative review of information provided; (f) thoroughness of documentation, and (g) flexibility of products and services.

Clemens described three components of an effective educational information system. The first component, the products which the system should generate, is divided into two types: basic products and those products which are derived from the basic products. Three forms of basic products are documents, interpretable data, and rosters of people and locations from which additional information may be obtained. Derived materials include bibliographies, access tools (indexes, abstracts, etc.) and interpretive materials.

A second component of an effective educational information system is the functions it must perform. Included among these functions are acquisition of information, evaluation of acquired information, techni-

cal processes which will make evaluated acquisitions accessible (abstracting, indexing, searching, retrieving), dissemination, and information analyses (including discipline-oriented analyses, mission-oriented analyses, and "census bureau" analyses).

The third component covers the services which must be provided by the system in order to assure use of its products. Four types of client services were noted as essential:

1. *Query negotiation*; which consists of conferences between a system agent and his client for the purposes of determining information requirements, uses and practical constraints of the information.

2. *Formulation of the search strategy*, in which the best use of the system for the particular problems of the client are determined by the system agent.

3. *Screening and analyzing search output* in order to determine further search needs, referral needs and evidence contained in the output.

4. *Client briefing* by the agent regarding information retrieved or the need for further searches.

In discussing the current status of educational information services, Clemens considered products, functions and services at local, state and national levels. Among products at the national level, he mentioned ERIC, the School Research Information Center, and the DATRIX system of University Microfilms, Inc.

State products include documents of "clinical reports of current practice or of non-experimental evaluation." Referral materials, such as the ERIC *Pace-Setter* volumes and the Michigan Ohio Regional Educational Laboratory were mentioned, as were interpretive materials such as the American Educational Research Association's *Review of Educational Research* and *Encyclopedia of Educational Research.*

Functions of educational information services have not been well developed to date, according to Clemens. Among operational or demonstration programs of data applications which he mentioned are the Midwestern States Educational Information Project, the data program of the University of California, the Tex-Pak system in Texas, and the Integrated Educational Information System operation at Oakland, Mich.

Client services at the national level consist of those performed by the various ERIC Clearinghouses and the Clearinghouse on Vocational and Technical Education.

At the state level, Research Coordinating Units were noted as being perhaps one of the best connectors between the system and the user. Although the limitations of RCUs are many, the large number of functions which they must perform with insufficient personnel or funds is critical. Other state services include a Bureau of Reference Library Services in California.

Regional services noted were the MOREL data and referral system adopted by the Ohio Education Association and the Far West Laboratory for Educational Research and Development's Communications Program.

Local services included RISE (Montgomery County, Pa.), ASSIST (Wayne County, Mich.), a county network being built on the Board of Cooperative Educational Services in New York, and intermediate school district units in San Mateo and Contra Costa Counties, Calif.

Ongoing activities for improvement in educational information transfer which Clemens mentioned included programs with the System Development Corporation and the Teaching Research Division of the Oregon State System of Higher Education; a pilot experiment for on-line query of the computerized ERIC file; a project to design alternative models for implementation of a multi-level system; making the ERIC file available in the form of computer tapes; a study to plan for systematic and continuing identification of information needs and information, and two summer institutes for training of state and local educational information personnel.

After stating four propositions regarding improvement of educational information services, he made eight suggestions for improvement:

1. Every state should take immediate steps to establish a technical information center or, in the absence of such a center, a vocational education technical information program should be established.

2. A separate data system should be established directed toward evolution of a data-based management information system.

3. Efforts should be undertaken at the state level to acquire and screen all basic documents produced at the state and local level.

4. A program of research on information needs and behavior of educational practitioners and decision-makers should be initiated in every state.

5. At the state level efforts should be made to encourage development of intermediate or local level information service centers.

6. The Research Coordinating Unit should serve increasingly as the state instrument for fostering improved information user services.

7. Attendance should be encouraged at training institutes.

8. Thoughts and comments are solicited on ways in which we can provide for a continuing dialogue on information needs and possible responses to those needs.

Professional Undertaking and Implementation of Research

George L. Brandon, professor in residence, American Vocational Association, spoke on the topic, "Professional Undertaking and Implementation of Research in the Vocational Education Amendments of 1968. Noting the diversified audience to which he was speaking, Dr. Brandon described his basic objective as being professional and informational: that of "relating vocational and technical education research to the intent, purpose and implementation of the legislation."

After relating the role of vocational-technical education to the social conditions of the times, he examined the general rationale and spirit of the new legislation. The evolution and emergence of the law was credited as the result of "powerful forces" of:

1. The nature and number of our social problems and their relation to education—and to vocational-technical education.

2. The technological, economic and political trends and issues.

3. The challenge to relevancy in education.

4. The American versus the European system of vocational education.

5. The academic and liberal dis-

dain for vocational education.

6. The nature of learning in institutionalized settings.

7. The switch from job-centered to people-centered vocational-technical education.

8. The bureaucratic, professional and disciplinary impasse.

After noting sources of disenchantment with research and reasons for this disenchantment, Dr. Brandon offered a survey of the changes in emphasis in the new law. Among the specifics of the law he pointed out that:

1. Basic focus of purpose is "access" to vocational education.

2. Advisory councils are formally installed.

3. Evaluation is a consistent thread.

4. Description of the nature of the state plan has numerous research connotations.

5. Research provisions are authorized at 10 percent of appropriations.

6. New ways are sought to create a bridge between school and earning a living.

7. Once again, we try for residential vocational education.

8. Homemaking education is singled out for special treatment.

9. Legal recognition, and emphasis of authorizations for vocational cooperative education are vigorous and progressive.

10. Congress admits the complexity of vocational curriculum development in Part I, but puts its emphasis on (a) new and changing occupations, and (b) the coordination of improvement in and dissemination of existing curriculum materials.

11. A miniature vocational education manpower act is contained in the new law.

Dr. Brandon reviewed some of the legal and professional requirements for implementation of research under VEA 68, and the research input for state plan provisions.

Regarding the formulation of research policy and professional participation, Dr. Brandon presented "several critical issues which face us." In brief, these are:

1. Research personnel and program operating personnel must take steps to influence decisions regarding use of research resources. In order to do this it will be necessary to understand each other's function and relationship to research.

2. Our research and practitioner personnel should devote a great deal more effort to dissemination of research and research utilization.

3. We must make concentrated efforts for research input into personnel development programs at all levels.

4. Investigation should be made of the need for a translator, marketer, application specialist to round out theory into practice.

5. The research enterprise must become a common denominator with the national and state advisory councils.

6. The need for "organized professional focus" should be recognized.

alysis for jobs for the community is the responsibility of educational research.

A powerful agent for change was seen in the curriculum guide. Questions through which guides may be evaluated are:

1. Have the major jobs and occupational areas been identified?

2. Is this identification accompanied by a description and analysis of the jobs, including the requisite social and background knowledges, and the behavioral skills?

3. Has this analysis been translated to the curriculum in terms of materials development, performance standards, media techniques, and methodology?

4. Does the guide provide for realistic learning experiences in and out of school?

Even if the guide does measure up to these criteria, it is of no value until implemented. This implementation was seen to require both an understanding of the technology process and the necessary instructional materials to do the job.

Instructional materials required for implementation are often provided by commercial firms; however, they are plagued by a need for better communication with research groups. A look at the classroom situation envisioned for 1978 demonstrated that a close partnership between industry and education will exist to an even greater extent than now.

The "knowledge industry" to which he referred is divided into two types of companies: small firms which deal

Translating Research Results Into Change Factors

Lawrence A. Walsh of McGraw-Hill Book Co., in presenting the topic of "Strategies for Translation of Research Results into Change Factors in Regular Vocational Education Programs," referred to the failure to translate research results for the improvement of vocational education as "a tragic waste of human resources." In order to devise a plan whereby research results may be incorporated into educational practice, he envisioned a necessity for identification of "agents for change."

Four such agents which he noted are: (a) teacher training schools; (b) the community itself, (c) curriculum guides, and (d) commercial firms.

Teacher training schools were seen to be the most suitable change agent. However, barriers within the schools, and the lack of a strong decision making structure for the use of research results, leave this agent with only a weakened amount of change stimulus.

A strong source of change stimulus is the community. Students and parents are becoming quite vocal regarding curriculum change, and employers in the community have an interest in vocational education curriculum. However, none of these persons has the adequate criteria upon which to base his interests, recommendations and demands. The provision of complete behavioral an-

Focus of New Institute Is Student Development

Basic and fundamental research for education in the areas of student growth and development, including the fields of assessment and conservation of student potential, effects of college environment, anaylsis of current curricula and career development, and theoretical analysis of economic problems of college attendance, will be undertaken by a new Research Institute of the American College Testing Program. ACT's new national headquarters building complex in Iowa City, Iowa, will house offices for the institute.

solely with educational publishing, and larger firms which have greater capabilities for instructional systems development.

Capabilities required for producing a vocational learning system were listed as: (a) developmental research (including research in learning, experimental applications of research, experimental products, research for entirely new types of products, subject-matter or skills analysis, production of models for field testing, and evaluation); (b) an understanding of behavioral psychology (and application of its findings); (c) subject-matter competence; (d) equipment competence but machine independence; (e) broad marketing operations; (f) systems analysis experience, and (g) money to invest over a long period of time.

Shortcomings which Walsh saw in research and development were that "there is too little research, too much of it is of low quality, too little is relevant to the most serious problems of vocational education; and, in general, there is too little direct relationship between research and implementation."

Instructional designers must deal with three major factors: "The nature of the subject-matter content, the nature of the learner and the nature of the learning environment." Work is being done to provide the designers with tools for analysis of subject matter; however, information is needed for dealing with the learning environment and in "diagnosing individual learners."

In addition, instruments for determining differences in learning style and experimentation with cost-effectiveness and cost-benefit techniques are needed. All of these things can be provided through increased research and development, and Walsh called upon the conference to pave the way for advancement in these areas.

Regarding the role of industry in contributing to education, two key problems were considered: (a) how to use industry for educational R and D work, and (b) how to maintain quality control of educational products and services. Generalizations made regarding the capacity of industry to do R and D work included:

—Industry has little capacity to do basic research, and this job should be left to research-oriented organizations.

—There is considerable capacity in industry to do applied research.

—Industry has the capacity to apply research findings to experimental product development.

—Industry has some capacity for developmental work in cost-benefit analysis and systems analysis.

—Industry has begun to develop capacity for doing evaluation studies.

—Industry has the capacity to supply management for research efforts.

Schools can maintain only indirect control over the characteristics and quality of the products and services offered them by industry. This control is through their buying decisions. Thus, an optimum match of the needs of education and the capabilities of industry is not resultant. Walsh called for a mechanism for enlisting the R and D resources of industry in greater accordance with the needs of education: that is, "the educational community should have more say in the priorities of the business firms."

This problem is further complicated by the lack of agreement on national priorities in the education field itself. There is a need for analyzing the needs of vocational education on a systematic and national basis; and then of influencing the allocation of R and D resources according to these needs. For this purpose Walsh called for an independent board or agency which could make these decisions without direct contracts with federal agencies or private industry.

In order to assist school personnel in deciding which instructional materials offered by private companies are most suited to their particular needs and the needs of their students, it was suggested that all companies should provide evaluative information along with new instructional materials. In this way, schools would be able to make reliable buying decisions and quality control would be maintained through a self-policing mechanism.

Because of the costliness of such evaluations, however, Walsh did not foresee them becoming available in the near future. He therefore suggested assistance of RCUs in (a) studying the process of evaluation, and (b) showing schools and colleges how to interpret evaluative data.

Utilizing Local Environment in Community Action Research

Chrystine Shack, of the New Jersey State Department of Education, presented the topic, "Strategies for Emphasizing the Utilization of Local Environment in Community Action Research." After surveying the Vocational Education Amendments of 1968 for implications relating to her topic, she asked the question: "Could the very language of the 1968 amendments be telling us that within the next few months, we as educators will be called upon to deal with and tailor our mode of functioning to the grass roots population?"

Explaining that people are a community's most valuable resource, she said that a means for utilization of community resources must be sought. After citing such innovative programs as Operation Headstart, Higher Horizons and Upward Bound, she noted that vocational education has pioneered in the utilization of the business and industrial community, but our inroads into that community need expansion and fuller application. More research into cooperative education and other similar programs was called for.

The job ahead for research was seen to be that of:

1. The validation and exploration of increased opportunities for enlarged parent and community participation in public education.

2. The exploration and validation of re-orienting vocational education, emphasizing work experience training and the involvement of business and industry.

3. The exploration and validation of developing curriculum approaches, materials and teaching strategies which will make the needed general and vocational studies meaningful and desirable to the student with limited potential.

4. The exploration and the validation of developing lines of communication and dialogue with the underdeveloped community.

5. The exploration and validation of the existence of community resources.

Research Handbook for Vocational-Technical Education

See Bibliography for Information on availability of complete studies

Research Handbook for Vocational-Technical Education. William L. Hull, et al. Research Coordinating Unit, Oklahoma State University, Stillwater, Okla. July 1969.

This publication, written for use by individuals at the local and State levels, contains a collection of ideas concerning alternative strategies for developing research policies for vocational education.

The first chapter, "Research: A Legislative Mandate," examines legislation authorizing research monies. The guiding principle of this chapter is that "a commitment to the research and development function should be institutionalized into the operations of State agencies. State monies should be budgeted to the R and D function at a sufficient level to continue program innovation regardless of the Federal research funds allocated to the State."

Conclusions drawn regarding the Congressional intent in the 1968 Amendments for the program of research are: members of Congress continue to place a high value on research in vocational and technical education, they are aware of the problems of staffing for research, they want research to contribute to existing programs as well as to new programs and new emphases, and they want the research programs to be a part of plans generated at local and State levels as well as the Federal level.

Authorizing Research Monies

Specific recommendations made in the first chapter of the *Handbook* are:

1. State and local educational agencies should not impose eligibility requirements in research programs which are in addition to Federal law.
2. Funds for research should be allocated to the States on a general non-categorical basis.
3. P. L. 90-576 stipulates that state-allocated research monies are to be used for making qualitative improvements in existing programs.
4. State-level programs and projects should relate to a national network of coordinated research effort to maximize results.

Chapter two, "State and Local Administration of Research Funds," expresses as its guiding principles: "Administrative policies at all levels should be minimal yet sufficient to allow an accounting of funds. Users of research findings should participate in the process of determining priorities for research and development activities. Decisions on research priorities should be made at the administrative level (local, State, or Federal) responsible for funding. The continuing evaluation function should be clearly separated from program development in vocational and technical education. An element of evaluation expertise from outside the system should be present in program evaluation."

Stimulating Research Effort

Various approaches are suggested for stimulation of the research effort. In brief, they include: general announcement of the availability of State monies for research and development in the local school system; participation in teacher-group meetings by representatives of the State agency; assembly of representatives of professional teacher organizations in order to advise them of teacher-conducted research projects, and conducting of state-level workshops or seminars.

Specific recommendations for State and local administration of funds included that of a continuing commitment to vocational education research in State and local plans, an advisory committee for recommending priorities for research project funding, and additional detailed recommendations regarding research review and coordination.

A statement of guiding principles for "Coordination and Dissemination of Research Findings" indicates that the most frequently used source of information is the one most accessible to the user. The research and development functions cannot be performed unless personnel have the expertise necessary to perform their duties. A technical information system should provide a variety of outputs aimed at different target audiences. Person-to-person communication is preferred among practice-oriented groups. Private industry plays an important role in disseminating information to educational practitioners.

Specific recommendations regarding coordination and dissemination of research findings include establishment of a multi-level technical information center in each state which would be compatible with a national system. In addition, differential staffing should be used in dissemination centers in order to reach different user groups. Efficient link-up with local school system personnel and research project personnel should be a part of the technical information system. Workshops and training programs in the efficient use of research information are suggested, as well as training programs in research processes.

Eliminating Duplication

The guiding principle of "Implications for National Research and Development" is: "Coordination of research in vocational education continues to be the primary responsibility of the Division of Comprehensive and Vocational Education Research. The U. S. Office of Education remains the only agency in a position to minimize unnecessary duplication with 50 new funding decision points identified in the 1968 Amendments." Recommendations for administration of a basic research program through USOE are made.

Appendices to the *Handbook* include a "Checklist for State Plan Research Provisions," "Suggested Procedures for Submitting and Funding Research Proposals," "Examples of Research Coordinating Activities," and an "Example of Research Coordinating Unit Budget."

TO ORDER COPIES . . . of the bound volumes of *Research Visibility*, send $2.50 for both the 1967-1968 and 1968-1969 volumes or $1.50 for the 1968-1969 volume alone, to the American Vocational Association, 1510 H St., N.W., Washington, D.C. 20005. These can be an important addition to any research library.

Review and Synthesis of Research in Industrial Arts Education

See Bibliography for Information on availability of complete studies

Review and Synthesis of Research in Industrial Arts Education: Second Edition. Daniel L. Householder and Alan R. Suess. The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, Columbus, Ohio. October 1969.

This publication provides an analysis and synthesis of research in industrial arts education during the three-year period, 1966 through 1968. An authoritative analysis of existent literature in this field, it is intended for the use of both practitioners and researchers. The authors state that it "should assist in identifying substantive problems and methodological approaches for researchers, as well as providing practitioners with a summary of research findings which have application to educational programs in this area."

A conference which The Center for Vocational and Technical Education sponsored in October 1968 served to review relevant completed research and to identify priority research areas in industrial arts, and complements this review. The final report of this conference, titled *National Conference on Research in Industrial Arts*, is available in published form (see bibliography).

Journal articles and doctoral dissertations were the main sources of research searched for purposes of this review. In addition, staff studies and reports of funded research were used when available. Other materials were consulted only when they were available through ERIC in order to avoid use of materials which could not be obtained in original form by the readers of this review.

The history of industrial arts, its philosophical foundations and its objectives were the first to be reviewed. An unusually large number of publications regarding the history were found to be available in the period covered by this review, although "improved selection and criticism of primary and secondary sources" was found to be needed. Recent studies based upon both traditional and novel philosophical viewpoints were found to be an important contribution to research in industrial arts education.

Three particularly meaningful studies by John Zullinger (1968), Kerby Backus (1968) and Harold Kachel (1967) are investigated for their impact on the area of objectives.

Curriculum development in industrial arts education is investigated in terms of proposals for content selection, innovative curriculum efforts, implementing curriculum change, and the status of industrial arts programs. Although curriculum development has provided one of the major thrusts of industrial arts research efforts during recent years, many reports of curriculum projects have not yet been made available.

Instructional media and methods, such as programed instruction, television, films, filmstrips, slides, and miscellaneous other media are examined in terms of their creativity, activity-oriented techniques, the specificity of direction and control, and achievement determinants. The greatest amount of research is found in the media and methods areas; research reviews by Taylor and Christensen, Suess, and Householder are also cited.

Three exemplary studies dealing with student personnel services were used in the review. These dealt with the guidance function of industrial arts and explored the educational problems of the dropout or the potential dropout.

Research regarding facilities and equipment in industrial arts laboratories was found to lie mainly in the area of planning guides. Other research dealing with effects of various elements on students was reviewed, but the need for further application of basic research of the science and engineering type to the industrial arts setting is an area where greater attention is needed.

The field of teacher education was reviewed for its organization and administration, undergraduate programs, course content selection, recruitment, and graduate study. A lack of broad-scale assessments of total undergraduate programs was noted, while a comprehensive study reporting practices for providing graduate work was done in 1965, with many others following it.

A wide range of studies was found in the area of administration and supervision of industrial arts, and this review concentrated on research in the areas of test development and evaluation of programs. Publications dealing with research in industrial arts were found to be becoming more frequently produced in recent years.

An 18-page bibliography which includes, in a great number of cases, ED numbers of works cited, is a valuable part of this publication.

Encyclopedia of Educational Research: Fourth Edition

See Bibliography for Information on availability of complete studies

Encyclopedia of Educational Research. Fourth Edition. Robert L. Ebel, et al, eds. American Educational Research Association, Washington, D. C. The Macmillan Co., Collier-Macmillan Limited, London. 1969.

This fourth decennial edition of the *Encyclopedia* offers concise summaries of research and many references for further study, and it is designed to provide a convenient source of information about most of the important aspects of education. Although the *Encyclopedia* cannot possibly be the most up-to-date source of educational research information, if only because some of its articles were written as early as 1966, it may be a useful "stepping off point" for further investigation of a given area of educational research.

Articles included in the *Encyclopedia* were provided by carefully selected experts in the various fields of education. Topics covered, which were chosen by the Board of Editors, include all kinds of contribu-

'ions to educational knowledge, not simply those resulting from experimental studies. References to research in the articles are not necessarily limited to that which has been done in the decade since the *Encyclopedia* was last published, but rather they "deal with persistent educational problems and continuing educational concerns."

Content of the *Encyclopedia* is divided into 20 topics, as follows:

Developmental Psychology	Cultural Subjects
Psychology of Learning	Vocational Subjects
Human Behavior	Student Personnel
Social Foundations	Teacher Education
Curriculum	Teacher Personnel
Instruction	Levels of Education
Special Education	School Systems
Educational Measurement	School Administration
Research	Educational Finance
Tool Subjects	Educational Facilities

The area of vocational education has been divided into a group of subjects different from that usually used among vocational educators. These are: vocational and technical education, agricultural education, business education (including distributive education), home economics, safety education, professional education, medical education, legal education, engineering education, and military education.

The area of curriculum includes articles on 11 subjects: objectives and outcomes, curriculum, curriculum evaluation, educational programs (elementary schools), educational programs (secondary schools), educational programs (college and university), general education, honors programs, student organizations and activities (elementary and secondary), student organizations and activities (college and university), and education of women.

Research on research is treated in articles on research in education, research methods, experimental methods, statistical methods, survey research methods, data processing and computing, research organizations, and training research workers.

Articles on teacher education include teacher education programs, student teaching, and inservice education of teachers. Articles in the area of teacher personnel are teacher certification, economic status of teachers, tenure of teachers, teacher roles, faculty characteristics (college and university), teacher effectiveness, professional educational organizations, collective action by teachers, and academic freedom.

Various levels of education to which articles are devoted are early childhood education, elementary education, secondary education, community college education, graduate education, adult education, correspondence instruction, and extension education.

The area of school systems is divided into articles regarding local school systems, state regulation of education, cooperation, coordination and control in higher education, articulation of educational units, federal programs, relation and influence, urban educational problems, parochial schools (Roman Catholic), independent schools, proprietary schools, and education in developing nations.

Articles dealing with the area of school administration include those on administrative theory, preparation of administration, public school administration, school business administration, college and university administration, school personnel administration, improvement in educational practice, public relations, supervision, and discipline.

The greatest number of articles is devoted to the area of student personnel. These are: admissions (college and university), student financial aid (college and university), attendance, dropout (causes and consequences), records and reports, student characteristics (elementary and secondary), student characteristics (college and university), college environments, occupational placement, counseling theory, counseling (elementary schools), counseling (secondary schools), counseling (college and university), school health services, and health services (college and university).

In all, there are 164 articles in this edition of the *Encyclopedia*. Each article is new and different from those appearing in previous years. Perhaps one of the most valuable offerings of the volume lies in the references listed at the end of each article, for it is here that one may begin a thorough exploration of the field on his own, and acquire the most recent information available.

PREVIOUSLY REPORTED TOPICS

See Bibliography for Information on availability of complete studies

Training Programs in Selected Health Occupations

The Feasibility of a Systematic Study of Manpower Requirements and Education and Training Programs of Selected Health Occupations. Forbes W. Polliard. Indianapolis Hospital Development Association, Inc., Indianapolis, Ind. November 30, 1966.

The purpose of this study was to determine the feasibility of conducting a study of health manpower requirements and available training programs in the Indianapolis, Ind. area. Specifically, the researchers attempted to determine the degree to which leaders in the health professions were interested in and willing to participate in a study. In addition, a review was to be made of previous studies, and a plan was to be prepared for conducting a study in the Indianapolis area if one was found feasible, with health professions leaders to be involved in formulating the plan. Finally, the study was to determine whether this comprehensive study approach could be used in other metropolitan areas.

The project, conducted from August through November of 1966, used meetings held with groups interested in health manpower planning, personal interviews of people knowledgeable in the health manpower field, discussions with other interested groups and individuals, and a survey of available publications and articles on health manpower planning to acquire ideas and opinions to be used in answering the questions which formed the basis of the study. (An appendix to the study lists the publications and articles which were found.)

It was found that health services had been the subject of rising con-

cern. As utilization of health services has increased, so has the need for additional health manpower of a more highly skilled variety. Investigation indicated that a 20 percent increase in health manpower was needed in hospitals in order to produce complete patient care. Factors which brought on this increased need for health manpower included higher spending for health services, a more sophisticated demand for services, advances made in medicine, expansion in the field of health insurance and welfare programs, increased expected life span of Americans along with increased birth rates, greater cost of medical care, and the increased role which government plays in the field of health.

In addition, it was reported that shortages in the field of health manpower can be attributed to improper utilization of the workers who are presently in the field. Study should be made of possibilities for changing the duties and/or requirements of health workers in order to get the optimum use of those who have entered the field.

The organizations and individuals contacted during the study agreed that a comprehensive re-examination of manpower utilization, education and training plans, policies and practices was necessary in order to plan new procedures for the recruitment, education and re-education of qualified personnel for the health field. There were, however, those who felt that a comprehensive study would not be desirable at that time because of reasons such as the present extensive fragmentation of health field occupations and the need to meet present manpower requirements with an approach which would produce more rapid results.

Results of the feasibility study supported several general conclusions regarding the health manpower situation in Indianapolis. One conclusion was that there was sufficient concern regarding health manpower needs on the part of individuals and organizations involved in the field. These people were willing to participate in action programs for improvement of the health manpower situation. In addition, it was concluded that a successful comprehensive study of health manpower needs in the Indianapolis area should assist in the formation of a model program which could then be used in other cities of comparable size.

A general plan for the comprehensive study project was formulated from the results of the feasibility study. It was decided that the purpose of such a comprehensive project should be the development of an orderly plan for dealing with present and future needs for health manpower in the entire Indianapolis area. Both short and long range personnel development plans should be included in the program in order to meet immediate needs as well as to prepare for future requirements. In order to develop such plans, the comprehensive study should determine present and future demands and supplies for health services, and relate these to education and training programs.

A study should also be made which analyzes the roles and responsibilities of health professions and occupations and how these might be restructured to make optimum use of available manpower. Reorganization of health training curriculum and its content, and also formation of a "career ladder" in health occupation fields so that a person may progress professionally, therefore making optimum use of his skills, should be included in the study. Pilot programs should be formulated for the purpose of analyzing suggestions made by it and formulating these into a plan of action.

A comprehensive health manpower study should be conducted over a five-year period, with use of all resources available from the health manpower community.

Manpower Programs for Deprived Urban Neighborhoods

Education and Manpower Strategies and Programs for Deprived Urban Neighborhoods: The Model Cities Approach. National League of Cities, Washington, D.C. May 1968.

This report is an analysis and synthesis of speeches, comments and reactions by participants in a workshop sponsored by the National League of Cities and the U.S. Office of Education in late 1967. The workshop was aimed at an identification and examination of strategies and programs for possible use by city and school administrators in the planning, initiation, implementation, and coordination of comprehensive programs in manpower and education in underprivileged city neighborhoods.

As seen by the participants in the workshop, the problem facing local government administrators today is that of dealing with the young urban Negro who is caught in a vicious circle of inadequate education and training, unemployment, economic deprivation, and social segregation. It is felt that this deprivation and segregation must be removed before the crisis of the cities can be resolved.

Strategies for dealing with the problem suggested in the study include coordination of existent programs, city government involvement in educational planning, and citizen participation in planning and implementation of programs. Manpower development and education programs are also discussed as a means to a solution. It is noted that the best current example of the means for achieving progress in solving this problem is the Model Cities approach, which is explained as "the concept that all institutions and groups operating within the city must jointly plan and carry out programs for deprived urban neighborhoods."

In a summary of the major findings and conclusions of the participants in the workshop, two factors were presented as being the main reasons for unemployment or underemployment of the resident of the urban ghetto: racial discrimination and inequality of educational opportunity. It was concluded that the responsibility for coordination of the efforts of all organizations and agencies within a city lies with the city's mayor, and that city and school administrations must be effectively linked for the solution of community problems relating to education.

The concession was made that there is no one solution to the manpower problem of the urban slum. In addition it was noted that conventional solutions must be replaced by new and innovative approaches for solution of this most difficult prob-

lem. Alternative strategies must be tested for their effectiveness until a working set can be coordinated. Education was recognized as the "key to economic independence," and an intensification of a variety of educational programs was suggested.

The suggestion was made that a re-evaluation of standards for selection of employees might open doors for those who are able to perform jobs, but do not have the appearance, speech ability or educational attainment usually required by prospective employers. The idea is that some of these "qualifications" may be totally unrelated to actual job requirements.

Finally, the value of citizen participation in problem solving programs was emphasized.

plain talk

George L. Brandon, Editor, Research Visibility

A backward glance and future focus. The concentration of this month's *Research Visibility* on a national research conference is vulnerable to challenge. Was the conference and its product of sufficient value to sidestep normal, monthly reporting of vocational research and its activity? Events which have occurred (or better, have failed to occur) to shape vocational research of the future since the national conference, compel a backward glance. Although the backward glance is well reflected and documented in the conference report, *Proceedings—National Conference on Research, 1968 Vocational Education Amendments,* the prescription for the future is far more important.

The functional role of vocational research is the issue taken to task by Guest Editor William W. Stevenson this month. The editorial is highly related to the various presentations of the National Conference, some of which are reviewed this month, and to the *Proceedings*. A "cookbook" or how-to-do-it guidebook, *Research Handbook for Vocational-Technical Education,* jointly authored by Dr. Stevenson and Oklahoma State RCU's William Hull and William Frazier, was also published (ERIC # ED 030 002).

Not to be caught napping or asleep at the dissemination switch, a presentation of 16 colored overhead visuals accompanied by a script was produced to explain the *Handbook* and its importance to research planning, especially on the state and local levels. The visuals were also duplicated on paper, black and white. Therefore, in addition to the reviews this month which cannot be considered adequate for conference coverage, there is available a complete kit of materials as follows:

—The *Proceedings* and *Research Handbook*. Obtain from Office of Education, Division of Vocational and Technical Education, Washington, D.C., 20202. (Attention Dr. Otto Legg).

—Sixteen (black and white) masters from which transparencies can be made locally, and a nine-page script ($1.00).

—Sixteen color transparencies and a nine-page script ($7.50).

—Black and white masters and transparencies with script may be obtained from the Vocational Research Coordinating Unit, Classroom Building 402, Oklahoma State University, Stillwater, 74074, attention W. W. Stevenson. Prices include postage.

Undoubtedly, we shall witness in the future the research keynote of function and utilization in program change for increased effectiveness. The materials which have been made available from the National Conference should initiate and sustain a noble effort to serve this purpose.

Research and AVA Boston. A full diet of research meetings, conferences and presessions contributed greatly to the overall success of the Annual Vocational Convention in early December. Plans to consolidate a publication of convention proceedings, admittedly no small undertaking, make possible the dissemination of research activity which occurred at the annual meeting. Convention registrants will receive the proceedings. Other persons may order a copy at $2.50 from AVA.

Evaluation or Equipment—A Hard Decision. *RV* decided on the latter after a great deal of soul-searching and investigation, and the interest of our readership in mind. In this case the equipment purchased is a microfiche reader, and it marks at least a start on the purchase of a complete vocational-technical microfiche collection (ERIC) for use at AVA Headquarters. The reader is on station and in the "go" position with only momentary delay for the delivery of the VT collection.

This fact should not be interpreted that there is no interest in the collections of the other clearinghouses of the ERIC system, but the *RV* budget, unaccustomed as it is to thinking in terms of the new trillion-dollar economy, had to pull up the belt.

Consequently, the survey of *RV* readership is the questionable loser. With the receipt of the complete VT collection and reports of other selected clearinghouses together with a microfiche file, *RV* should be in a strong position to improve the thoroughness of its reporting in the future. Optimistically, the acquisition will enhance and facilitate the research synthesis-interpretation-application process envisioned in the *RV* role of the future as explained last month.

Have You Seen? The following are recent, informative and challenging:

Continuing Education for Adults. Newsletter of the ERIC/AE Clearinghouse for Adult Education. Request from University College, Syracuse University, 610 E. Fayette St., Syracuse, N.Y. 13202, Thomas F. Cummings, Editor.

Research for Tomorrow's Schools: Disciplined Inquiry for Education, Edited by Lee J. Cronbach and Patrick Suppes. The Macmillan Co., $3.95, 280 pages.

Eli Ginzberg, "Manpower Research—The Cutting Edge of Policy." *Manpower*. Vol. 1, No. 11, December 1969. Single copy is 65¢, annual subscription $7.50. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

bibliography

STUDIES REPORTED IN THIS ISSUE

"Proceedings: National Conference on Research, 1968 Vocational Education Amendments." Oklahoma Vocational Research Coordinating Unit, Stillwater, Okla. April 1969. 152 pages. (ERIC # ED 028 300. HC: $7.70, MF: 75¢.)

"Research Handbook for Vocational-Technical Education." William L. Hull, *et al.* Oklahoma Vocational Research Coordinating Unit, Stillwater. July 1969. 45 pages. (ERIC # ED 030 002. HC: $2.35, MF: 25¢.)

"Review and Synthesis of Research in Industrial Arts Education: Second Edition." Daniel L. Householder and Alan R. Suess. The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, Columbus. October 1969. 63 pages. (See future issue of RIE for ordering information.)

"Encyclopedia of Educational Research: Fourth Edition." Robert L. Ebel, *et al.*, eds. The American Educational Research Association, Washington, D.C. and The Macmillan Co., Collier Macmillan Limited, London. 1969. 1522 pages. (Available from Macmillan Co., 60-5th Ave., New York, N.Y. 10011. Price: $30.00. AERA members receive a 30% discount.)

"The Feasibility of a Systematic Study of Manpower Requirements and Education and Training Programs of Selected Health Occupations." Forbes W. Polliard, Indianapolis Hospital Development Association, Indianapolis, Ind. Nov. 30, 1966. 80 pages. (ERIC # ED 016 079. HC: $4.00, MF: $0.50.)

"Education and Manpower Strategies and Programs for Deprived Urban Neighborhoods: The Model Cities Approach. Final Report." National League of Cities, Washington, D.C. May 1968. 141 pages. (ERIC # ED 025 629. HC: $7.55, MF: $0.75.)

ADDITIONAL STUDIES

"Research Implications for Educational Diffusion. Major Papers Presented at National Conference on Diffusion of Educational Ideas (East Lansing, Mich., March 26-28, 1968)." Michigan Vocational Education Research Coordinating Unit, Lansing. June 1968. 193 pages. (ERIC # ED 026 535. HC: $9.75, MF: 75¢.)

"National Survey of Indexing and Retrieval Procedures in Vocational-Technical Education Research Coordinating Units." Wisconsin Departmental Research Center for Vocational Education, Madison. January 1969. 50 pages. (ERIC # ED 026 540. HC: $2.60, MF: 25¢.)

"National Conference on Research in Industrial Arts." Alan R. Suess. The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. April 1969. 115 pages. (ERIC # ED 029 986. HC: $5.90, MF: 50¢. Also available without charge from The Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road., Columbus, Ohio 43210.)

"Research and Implementation in Vocational Education." Gordon F. Law. American Vocational Association, Washington, D.C. March 1969. 24 pages. (Available from American Vocational Association, 1510 H St., N.W., Washington, D.C. 20005. Ask for publication #22369, Price: 60¢. Also available from EDRS, ERIC # ED 029 145. HC: $1.30, MF: 25¢.)

"Symposium on General Linear Model Approach to the Analysis of Experimental Data in Educational Research (Athens, Georgia, June 29-July 1, 1967). Final Report." W. L. Bashaw and Warren G. Findley, Eds. University of Georgia, Athens. Aug. 23, 1968. 243 pages. (ERIC # ED 026 737. HC: $12.25, MF: $1.00.)

"Arrangements and Training for Effective Use of Educational R & D Information: A Literature Survey." Linda J. York. Far West Lab. for Educational Research and Development, Berkeley, Calif. February 1969. 113 pages. (ERIC # ED 026 746. HC: $5.75, MF: 50¢.)

"Mountain States Regional Workshop on Research in Vocational and Technical Education. (June 13-24, 1966). Report on Research Training Program." Utah Research Coordinating Unit for Vocational and Technical Education, Salt Lake City; Utah State University, Logan. July 27, 1966. 149 pages. (ERIC # ED 031 550. HC: $7.55, MF: 75¢.)

"Conference on Manpower Surveys for Vocational-Technical Education Planning". David Pinsky. The University of Connecticut, Labor Education Center. Storrs, Conn. Jan. 31, 1969. 162 pages. (Limited number of copies available from Labor Education Center, The University of Connecticut, Storrs, Conn. 06268.)

DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC*, a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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PREFACE

'Special Needs'

WHAT is "special" about "special needs?" Or, in other words, what are the provisions of vocational education for those whose needs are not normal, regular or typical?

Quite contrary to the vein of educational literature of the present, vocational education has possibly served its share of the atypical students of the past—without verbalizing the service and achievement.

With the inception of the Vocational Education Act of 1963, the "special needs," particularly of youth, have become by-words for definition and action. In the short span of a half-dozen years, "special needs" has been replaced by other terminology more befitting our explosive social, economic and political turmoil. The "special needs" have become, principally, the "disadvantaged" and the "handicapped," regardless of the sensitivity of employing the two terms in the same breath.

Whatever happened to the "reluctant," "alienated," "deprived," etc., and more important, to what extent can vocational and technical education serve their various shortcomings (and strengths)? For serve them it must, despite all of the fickleness and vicissitudes of provisions and resources, authorizations and appropriations, and the questionable statesmanship and stall strategy of our political leadership.

With a wave of the research wand. Hopefully, if *RV* were adept at the hocus-pocus, it could synthesize and interpret for JOURNAL readers the take-home research results of the $64 million backlog of discovery of vocational research of FYs 1965 through 1969 and specify precisely needed change and adjustment to cope with special needs of youths *and* adults. Our maturity and sophistication fall far short of prescription-making of this nature, but we do take very seriously the challenge:

> Research lays the groundwork for educational reform: taking an insight or a hunch, testing it under laboratory or classroom conditions, and refining a rough theory into a proven principle.
>
> But a decade or two of experience with educational innovation has shown that proving the validity of an idea is not sufficient to gain its acceptance. The working educator needs more than a research article or a how-to-do-it manual. He needs a strategy for putting an idea to work; a blueprint for joining all the components of a new technique—teacher understanding, instructional materials, planning, student and community orientation—all in the right order and at the right time.[1]

Consequently, a new format of *Research Visibility* for the seventies, proposes research utilization of the functional type—the SIA treatment—synthesis, interpretation and application to operating programs for change and improvement. Admittedly, the SIA treatment is theory in itself, but its direction is well documented if one accepts the assumption that research should have a pay-off in educational change for the better. With a few of the fickle gods of research funding in the *RV* corner, the idea will be given a whirl.

Previous RV reports on the special needs sector. This topic was specifically treated in several back issues of the JOURNAL, e.g., the November 1967 and October 1968 reports. It should be helpful to review these reports either in copies of the JOURNAL as indicated or in the bound volumes of *Research Visibility* (which are still available from AVA headquarters).

Bird's eye view of this month's reporting. The emphasis of the 1968 Vocational Amendments on the disadvantaged and handicapped makes "must" reading of the reports of the two national conferences devoted to the clientele of these sectors and directions of desirable vocational services. In fact, each vocational educator should have full conference reports of these national meetings and their discussion and recommendations. If you were missed on the original distribution, or cannot obtain them from Michael Russo of the OE's Division of Vocational and Technical Education, Washington, D.C., 20202, pass your inquiry to the *RV* editor's desk and an effort will be made to get them for you.

Research and study of needs of the handicapped are reviewed in six studies, some of which are concerned with work experience and work-study programs. More space is devoted to the needs of the disadvantaged and specific programs for both youths and adults.

Most important, and underlying the review and reporting of the entire issue, is the assumption that the research, programs and planning for special needs have transfer qualities to all vocational and technical education programs and practices regardless of student personnel and their needs. How else can be met the needs of all persons in all communities for vocational education and its benefits? How else in the dim past did a master teacher of your remembrance meet your (and my) special need for successful learning? Perhaps the good teacher recognizes *individual* needs—not *special* ones.

And then, there's the case of Mrs. Beverly. Mrs. Beverly had operated the photo developing business ever since her husband died five years ago. It didn't bring in much money, but there was enough for her simple needs. Even so, she had worries, manpower worries. People wouldn't stay in the darkroom. She couldn't remember how many had quit during that one year alone. . . .

Then that young man in the dark blue suit dropped in and presented his card. "I'm from vocational rehabilitation." he said. He explained he was trying to develop jobs for a couple of his blind clients who were ready for work.

"Did you ever think of hiring a blind person for darkroom work?" he asked.

She gasped. "The blind?" No, no! What could they do? How could they get here? Oh, no!"

She didn't know.[2]

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[1] Institute for Development of Educational Activities, Inc., *I D E A Annual Report*. An affiliate of the Charles F. Kettering Foundation. Dayton, Ohio: Suite 300, 5335 Far Hills Ave., 1969. p. 15.

[2] From "People." (*A series of "didn't know's."*) *Communications: A Program Guide, 1969—1970*. The President's Committee on Employment of the Handicapped. Washington, D.C. 20210. Italics in parentheses are the *RV* editors.

See Bibliography for information on availability of complete studies

Papers Presented at National Workshop

Papers Presented at the National Workshop on Vocational Education for the Disadvantaged (Atlantic City, N.J., March 12-14, 1969). National Committee on Employment of Youth, New York, N.Y. March 1969.

This workshop was attended by 171 leaders from the field of vocational education and other groups which work with the disadvantaged. Its purpose was to acquire practical information and guidance for planning, organization and operation of meaningful programs and services. Among the 12 papers presented at the workshop were analyses of various programs for the disadvantaged and proposals for improvement in areas of vocational education for this clientele.

Mrs. Frances S. McDonough, supervisor of curriculum development for the Tennessee Manpower Development Training Program, discussed "Curriculum Adaptations" for disadvantaged trainees. Noting that some disadvantaged trainees have special problems such as difficult attitudes, indifference, short attention span, day-dreaming, inability to concentrate, few personal goals, and lack of motivation, Mrs. McDonough suggests that the instructor vary the course emphasis (curriculum adaptation) for each student.

A careful examination of each occupational training program will identify many "exit points" or "job variations" for that particular program. A student who might not be talented in all facets of a program should be given intensified training in the area in which he shows strength.

"To succeed with the disadvantaged," stressed Mrs. McDonough, "the curriculum must be person-oriented as well as craft or trade-oriented, with strong emphasis on behavioral objectives, and with stress on understanding the individual after an in-depth study of his needs."

Garth L. Mangum shared "Lessons from Government-Funded Programs" for vocational education of the disadvantaged. The points which he cited were:

1. Early childhood education.
2. Elementary school orientation to the world of work.
3. The need to view vocational education as a teaching method and an educational objective rather than as a separate educational system, with especial value for its contributions to relevance and motivation.
4. The critical need for and the methods of remedial basic education, communications and job hunting skills, work adjustment and pre-vocational training.
5. The value of vocational education to previously neglected clients such as prisoners, reservation Indians, the disadvantaged in general, and employed who need upgrading.
6. The possibilities of motivating and training values of direct links between the school and the job.
7. The irrelevance and often the perverseness of many of the credential requirements for vocational education personnel, and the critical need for sympathetic and relevantly trained staffs.
8. The arbitrariness and inflexibility of many curriculum and scheduling practices, the perverseness of entrance requirements and testing methods, and the reminder that the adaptation of the school to the individual's needs (rather than vice versa) is the only defensible stance.
9. The variety of institutional, social and personal handicaps confronting the disadvantaged individual, his critical need for supportive services, and the number of potentially cooperating institutions emerging to meet his needs.
10. The fact that the disadvantaged are not appreciably different from other persons in their yearnings and ambitions if possibilities of upward mobility are made clear and realistic.

George R. Quarles, director, Newark Manpower Training Skills Center, reviewed a case study from the center which illustrated the various components and their successful organization and integration in a program devoted to Vocational Education for the Disadvantaged. The features which he feels would have significance for secondary school programs are:

1. The philosophy that "everything must revolve around the trainee."
2. A physical environment to which the trainee is proud to come.
3. An instructional, vocational and basic education program geared to each trainee's pace.
4. The careful selection and training of staff and instructors.

Lawrence Reddick, coordinator, Opportunities Industrial Centers (OIC), Philadelphia, spoke on "The Development of Vocational Education Teachers of the Disadvantaged." He discussed three guidelines used in the training of OIC instructors: (a) helping the potential instructor to understand the type of person the OIC seeks to train; (b) familiarizing him with special features of the OIC program, and (c) demonstrating the necessity of cooperation between instruction, counseling and job placement.

Basing his presentation on his own experience in manpower programs, Richard Greenfield, Job Counseling Center, Board of Education, New York City, described "Counseling and Supportive Services in Vocational Education for the Disadvantaged." The counselor's first and major function is the development of a unique relationship with each individual in the program.

The remainder of the counselor's work consists of: "orientation functions," or informing the client of the offerings of the program and how it can help him; "integrative functions," or helping the youth to "make sense out of a variety of experiences the institution is providing;" and, an "articulation function," of aiding the youth to make a successful transition to the world of work, or to his next step on the training ladder. In addition to these functions, supportive services of the medical, social or legal varieties are prescribed.

Jerry C. Olson, assistant superintendent, Occupational, Vocational and Technical Education, Pittsburgh Public Schools, presented "Curriculum Implications for an Educational System that Meets the Needs of Disadvantaged Students." He high-

lighted important components of an educational system based on "functional job analysis" which would be able to serve all students, including the disadvantaged, in the main instructional program.

"Involving the Community in Vocational Education for the Disadvantaged" was the topic presented by Dan Dewees, Human Resources Administration, New York City, and Lester Wooten, training coordinator, Martland Hospital Unit, New Jersey College of Medicine.

Defining "community" as "nonwhites," groups in the community which can be called upon to assist in the solution of problems are: (a) any community group which has devoted its continuous energies to school problems; (b) student organizations which seek relationships with the administration of vocational education programs; (c) civil rights groups (CORE, Urban League, NAACP, etc.) of help in identifying persons and groups within the community whose chief concerns are education; (d) minority professional groups and business groups which are frequently interested in roles they can play in improving community-school relations; (e) parents, either singly or as a group, and (f) militants and activists.

Robert Schrank and Susan Stein, consultants, Ford Foundation, presented "Turning Vocational Education to the Disadvantaged: Working With the Employers and Unions." A dichotomy exists between the needs of unions and employers; the challenge is to partially satisfy the needs of both through sorting and setting priorities. Also, employers must be convinced that they will benefit from cooperation with vocational schools, and that such cooperation fulfills a civic responsibility by cooling racial tensions and reversing discrimination.

Marvin J. Feldman, program officer, Ford Foundation, reviewed "Lessons from Ford Foundation Funded Programs." His ideas include developing an early understanding of the world of work, providing vocational guidance in the junior high school years, and redesigning the high school curriculum to provide a truly comprehensive education.

Cleveland L. Dennard, president, The Washington (D.C.) Technical Institute, presented "Planning, Organizing and Operating Through a Systems Approach." Three levels of planning in his conception of the systems approach include: (a) socioeconomic planning, (b) vocational education program planning, and (c) vocational education resources planning.

Louis Ramundo and Michael R. Robinson, Newark Manpower Training Skills Center, presented a "Review of Case Presentation Materials and Techniques." Use of several nonverbal techniques in the teaching of manpower trainees was described. Among the methods are use of models of tools being discussed, use of tv (closed circuit), and use of teaching machines and other mechanical devices.

Martin Hamburger reviewed "Perspectives on the Workshop" in the form of a critical analysis. He indicated the need to mobilize the people in the community and the people in education.

Changing Student Response to Supervision

Changing the Response of Vocational Students to Supervision: The Use of Motion Pictures and Group Discussion. Ralph M. Stogdill and Walter R. Bailey. The Center for Vocational and Technical Education, The Ohio State University. September 1969.

This study was based on the findings of a 1967 survey which "suggest that the maladjustment of secondary students in the work place may be more highly related to poor interpersonal skills than to inadequate technical skills." In order to improve the response to supervision of students who were found by their instructors to be maladjusted in this area of behavior, a series of motion pictures was developed depicting different patterns of supervisory behavior. These movies were shown to groups of students, who then discussed the behavior which had been depicted.

Motion pictures were produced depicting each of the following patterns of supervisory behavior: the supervisor speaks and acts as representative of the group; he gets along well with superiors and has influence with them; he lets followers know what he expects of them and what they can expect of him; he tolerates and encourages initiative and freedom of action in followers; he looks out for the welfare of followers and acts on their suggestions, and he pushes hard and persistently for productive output.

Research on the technique was conducted on selected students from three schools. Students were graded on their adjustment to supervision by their teachers, and groups of low-scoring and high-scoring students were selected for experimental and control groups. In order to determine effects of the movies, a questionnaire, "What the Ideal Leader Should Do," was administered to all students in both experimental and control groups before, and again 8 to 10 weeks after, the movies were shown and discussed. Also, teachers graded the behavior of students again 8 to 10 weeks after the movies had been seen and discussed.

Movie discussion groups were small (8 to 10 members) and were an equal mix of low- and high-scoring students. Discussion of each movie lasted for 40 to 50 minutes, and no attempt was made to influence attitudes expressed by group members during the discussions.

Through the pre-tests and post-tests, student change was measured by teachers' ratings of student adjustment to supervision and to work, and by students' attitudes toward supervisory behavior patterns emphasizing representation, structure, tolerance of freedom, consideration, and production. The primary interest of this study was in the ratings of adjustment to supervision.

The experimental group of poorly adjusted students scored significantly higher in adjustment to supervision ratings after they had discussed the movies. The poorly adjusted control group did not change significantly. It is suggested, therefore, that the movies did have the desired effect upon adjustment to supervision in maladjusted students. No significant changes were noted in ratings of adjustment to work.

It is recommended that further research be conducted to determine whether or not greater benefits are

derived from directed or undirected discussion of the movies. In this study the researchers conducting the discussion sessions made no attempt to guide the group's attitude toward the role being played in the movie. While this method produced significant change in the attitudes toward supervision of the participants, perhaps even greater change could be achieved if there were guidance of the discussions.

New Careers Program

The Frontier of Action: New Careers for the Poor—A Viable Concept. R. Frank Falk. University of Minnesota, General College and Minnesota Center for Sociological Research, Minneapolis. 1969.

This research project was conducted to provide information which would be helpful in the development and implementation of a New Careers Program. Ten research reports were compiled during the year in which the project operated, and these are appended to the report. The purpose of this report is to bring together the applied interpretations and implications of the research in the ten separate reports.

The experience over a two-year period of the Minneapolis New Careers Program indicates that New Careers is a viable conceptualization, although it carries with it many difficult barriers. Among barriers encountered by the project were the restructuring of agencies and the providing of new mobility opportunities. Also, civil service requirements needed to be changed so that people were not screened out on the basis of irrelevant past experiences. Despite these problems, it was concluded that "New Careers can provide opportunities for social mobility that our society has idealized for many years."

A suggestion for future New Careers programs is that such programs be established on the basis of several definitive models which would be tested to see which provide the greatest possibilities for given groups of people. It was strongly recommended that the New Careers Programs which are currently operating across the country continue to receive funds.

Appended reports are: "Critique of Agencies in the Minneapolis New Careers Program"; "A Functional Model for the Use of Para-Professional Personnel"; "Extractions From: Costs and Benefits of the Minneapolis New Careers Program"; "Job Interests and Job Satisfactions of the New Careerists"; "Down the Up Staircase: A Study of New Careers Dropouts"; "Contamination of New Careerists by Professionalization: Fact or Fancy?"; "The New Careerist: A Description"; "Discussions with New Careerists"; "Social Psychological Changes in New Careerists," and "New Careerists in Higher Education."

Topic Two: Vocational Education for Disadvantaged Adults

See Bibliography for information on availability of complete studies

Education's Role in Altering Personal Traits

Adult Education and the Disadvantaged Adult. Darrell Anderson and John A. Niemi. University of British Columbia, ERIC Clearinghouse on Adult Education, Syracuse, N.Y. April 1969.

This study is an examination of education's role in altering personal and social characteristics of disadvantaged adults. A review is made of the socioeconomic and social-psychological characteristics of the disadvantaged and the ways in which these characteristics influence the response of the disadvantaged to their environment and to educational programs. Educational programs for disadvantaged adults are analyzed and favorably influential characteristics of these programs are presented as tools for future program planning.

Review of pertinent literature revealed that the disadvantaged suffer from socioeconomic conditions of low income, poor education, large families, high incidence of ill health, low employment, and little promise of a better future.

Social-psychological conditions of this group include lack of self-confidence, low self-esteem, and a high degree of dependency. They do not achieve educational goals because they lack aspiration and motivation, which are related to a limited perception of the value of education. Lack of verbal facility impedes communication, thus lessening the opportunities for community involvement.

Literature regarding social interaction of the disadvantaged groups draws a picture of a subculture which has been forced to evolve its own operational way of life because of discrimination. Patterns of contact are different from those of middle-class society, and programs must be designed along these contact patterns if they are not to be doomed to failure.

An exhaustive search by the authors uncovered only 24 studies dealing with education programs for the disadvantaged based on carefully designed research. Of these, 16 were related in some way to literacy and fundamental education, 5 dealt with family life and health education, and 3 were related to vocational training programs.

A study by Lyman B. Brooks (1965), "Re-education of Unemployed and Unskilled Workers," reviews the effects of varying degrees of counseling and education on four groups of adults. It was found that those who had received intensive general education and technical training along with counseling fared better in the labor market than groups with less counseling and training.

The work of Alfred Feintuch (1954), "A Study of Effectiveness of an Integrated Program of Vocational Counselling Casework and a Sheltered Workshop in Increasing the Employability and Modifying Attitudes Correlating with Employability of Difficult-to-Place Persons," found that a sheltered workshop was valuable in qualifying previously unemployable adults for increased employment.

"An Experimental Development of Programed Instructional Material for the Vocational Education De-

partment of the Texas Department of Corrections," a study by C. A. Bertrand (1964), revealed inmates' preference for programed learning over conventional methods.

In summarizing the findings of this review of educational programs for the disadvantaged, it is noted that most projects are instruction-oriented. Although such research is valuable, a need exists for research leading to the discovery of new patterns of education which will not be rejected by the disadvantaged. So far, no research has attempted to attack this question. Those characteristics of the disadvantaged which are most amenable to change must be identified with the eye to redefinition of the problems of this group in terms of cultural change.

Implications of the literature reviewed in this study for educational planning are discussed in terms of communication, content, and the organization and conduct of the program. The characteristics of the disadvantaged and their response to situations provide a framework for planning programs which will be accepted by them.

Normal channels of communication are not suitable for reaching the disadvantaged. Illiteracy and low reading levels preclude communication through newspapers, magazines or pamphlets. Radio and television may be used successfully, but only if the message is consistent with the behavioral patterns of the disadvantaged subculture.

The method of communication most likely to be successful is that of personal contact on a one-to-one basis or with small groups. Messages fed to the subculture through such limited contacts will spread slowly throughout the entire area, especially if the message is easily understood. The message must be versed in the vocabulary of the disadvantaged subculture in order for the desired meaning to be conveyed. If this is not done, word meanings of the message may be confused and the message will not be accepted or acted upon.

Non-verbal communication, such as use of cartoon-type messages on television, is another means of communicating with this group, when appropriate.

Selection of content for educational programs for the disadvantaged should, to a large extent, involve the members of this group themselves. The socioeconomic characteristics of the group, however, do indicate some areas which would be useful. Basic education which would prepare disadvantaged adults for entrance into vocational job-training programs should be provided. The basic educational requirements for entrance into job training programs should be examined to determine if they are realistic. If there is no real need for a certain required skill, its requirement should be re-evaluated.

It is suggested that vocational programs for the disadvantaged emphasize the service occupations such as social work, teaching, recreation, and health service. In this way the status of the disadvantaged would be improved two-fold: the poor would be trained to help the poor. Training is also needed in technological areas, where retraining is often required because of the rapidity of change in these occupations.

Program content must be functional and immediately relevant to the problems of the individuals involved. Need-centered training which is directly related to economic problems is particularly acceptable. Vocational goals are held particularly by the young.

The authors note that efforts to persuade the disadvantaged who have dropped out of school to return to it are unsuccessful, unless some satisfactory experiences with learning in a more acceptable setting are encountered first. Settings for primary training which are more likely to be accepted than the school are church halls and basements, union halls, community centers, and neighborhood houses. School district and government regulations which interfere with the use of such sites for education must be changed in order for suitable program development.

Group sizes and instructional processes normally found in educational institutions must be abandoned in favor of ones which will not be rejected by the poverty subculture. Small autonomous groups with informal instructional patterns would be more acceptable. Instructors must be especially trained to understand the people with whom they are working so that they will be able to select and use appropriate processes for their special clientele.

In conclusion, the authors note that programs now offered to alleviate the problems of the disadvantaged are not working because they do not deal with the root of the problems. "Any plan for a remedy for the disadvantaged must be concerned with cultural change which involves an alteration in the overall way of life."

Topic Three: Vocational Education for Disadvantaged Youth

See Bibliography for information on availability of complete studies

Vocational Development of Junior High School Students

Vocational Development of Disadvantaged Junior High School Students. Robert E. Campbell, et al. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1969.

This study was conducted to determine the "educational-vocational perceptions and expectations of disadvantaged junior high school students as these perceptions relate to the students' educational-vocational development" in comparison with those of a group of nondisadvantaged students in the same school districts, but from different schools.

Research conducted in the field of education of the disadvantaged reveals that the junior high school years are critical. It is during these years that school alienation and poor academic and behavioral records are established. It is expected that facts uncovered in this study regarding the differences between the disadvantaged and the nondisadvantaged during the junior high school years will lead to the development of programs which will enable detrimental differences between the two groups of youth to be reduced or eliminated.

Four communities were chosen from different sections of the nation

to provide the sample for this study. Each participating school district had an enrollment of between 50,000 and 100,000 students, and the school districts were chosen on the basis of marked educational, social and economic differences between groups of students. Two schools from each district participated in the study: one school with a primarily disadvantaged student body and the other with a primarily nondisadvantaged student body.

Criteria were established for determining which schools serve primarily disadvantaged populations. A school of this nature serves low income families, families having poor housing and those in which parents have low educational attainment, and it is located in an area which has high unemployment and high underemployment rates. A total of 1,147 disadvantaged and 1,223 nondisadvantaged students were included in the surveyed.

A "Student Perception Inventory" was constructed to measure perceptions of the students regarding school, work, family, peers, and self in an inventory of 109 items.

A second instrument, a "Vocational Development Inventory, Attitude Scale," was selected for measurement of the vocational development of the students. The inventory consists of 50 statements to which the student either agrees or disagrees. The responses to the statements indicate the student's vocational maturity.

Additional forms were filled out by students, teachers and administrators to give project staff information regarding students' personal life, the school and the community.

Results obtained from these instruments in regard to educational-vocational planning indicate that while nondisadvantaged youths generally plan to complete four years of college, the disadvantaged groups are evenly split between those who plan to graduate from college and those who aspire only to graduate from high school.

The amount of time which students reported giving to thought about scholastic plans was about even for both groups, with the disadvantaged giving more thought to this in some cases. This fact is true of the amount of thought given to future jobs. In regard to the amount of choice students perceived they had of occupations, no systematic differences were existent.

Consistently higher scores on the Vocational Development Inventory test were achieved by the nondisadvantaged groups. Mean vocational maturity scores were reported as ranging from 26.56 to 32.93 for the disadvantaged and from 31.01 to 36.80 for the nondisadvantaged. Possible range of scores on this test is 0-50, from low to high maturity.

Correlations made between students' perceptions in various areas indicated that the amount of thought about education and future job, educational aspiration and choice of occupation are related. The correlations also imply that it is important for the educational establishment to show students operationally how they may influence their occupational activity in the future by what they do in the present.

Students' responses to the Student Perception Inventory indicated that disadvantaged students had more favorable relationships with teachers and felt school to be easier than nondisadvantaged respondents. No perceivable differences existed in the perceptions of the two groups regarding work and the future and family-child relationships.

Correlations were also computed between student perceptions and parental education levels and employment patterns. It was noted that the nondisadvantaged students' educational aspirations are more closely related to their fathers' educational levels than those of the disadvantaged. Parental occupational levels do not seem to provide an influential model for students' occupational aspirations at this stage in their development.

Because there were no marked differences in the responses of the two groups of students, it might be concluded that disadvantaged students are not substantially handicapped in their educational-vocational attitudes and expectations at the junior high-school level. However, the warning is made of the possibility that the disadvantaged students are responding in a naive or socially acceptable manner.

The fact that disadvantaged students have occupational aspirations comparable to those of the nondisadvantaged group is thought to indicate that the disadvantaged youth at this level may still be reached by the educational system. It would seem that programs should be developed which enable the disadvantaged youth to acquire vocationally relevant skills that can be used at the time of high school graduation.

Suggestions for further research in this field were: a longitudinal study aimed at identifying developmentally the point at which the two groups begin to divert; a study examining the cumulative effects of various environmental deficits on scholastic achievement; a study of "the effects of training parents to function more effectively," and a study to examine the effects of exposure to work responsibilities at an early age on the later development of positive work attitudes.

Specific implications of this study for development of programs were seen as: (a) since at this level of education school is still seen as the major general pathway to a satisfying and successful later life, school activities which are related to later achievement should be made clear to the student; (b) the various educational pathways to achievement should be pointed out, as many students think that college degrees are necessary for success; (c) vocational exploration courses should be expanded, and schools should prepare students with skills which will be useful to them later on.

School should be made relevant to real life; it is irrelevancy of school which makes students disinterested in it at later stages.

Computer-Assisted Research . . . The Center for Occupational Education in Raleigh is offering the resources of its computerized ERIC information file to educators. For less than $10, the Center will conduct a computer search for materials pertinent to the researcher's field of interest in 21,000 ERIC reports of research collected by the 19 clearinghouses in the ERIC system. A listing of ERIC accession numbers and titles will be mailed within 24 hours after receipt. For further information, contact SEARCH, Center for Occupational Education, North Carolina State University, One Maiden Lane, Raleigh, N.C. 27607.

Economic Needs of NYC Enrollees

The Economic Needs of Neighborhood Youth Corps Enrollees: Final Report. Leonard H. Goodman and Thelma D. Myint. Bureau of Social Science Research, Inc., Washington, D.C. August 1969.

This is a study of the income sources and spending patterns of Neighborhood Youth Corps (NYC) enrollees to: (a) determine their economic needs; (b) measure the extent to which NYC participation has helped to satisfy these needs; (c) identify the variable conditions under which these needs are satisfied, and (d) provide some basis for assessing the adequacy of current NYC policies regarding employment and remuneration of enrollees in relation to the goals of the program.

A questionnaire developed especially for this study was administered to 2,019 NYC enrollees throughout the United States. Youths from both the In-School and Out-of-School programs were surveyed. In addition, a sample of 518 youths who were eligible for enrollment in the NYC, but who were still on waiting lists, was surveyed for comparison purposes. NYC directors and school officials provided additional information for the investigators.

NYC enrollees have two common characteristics: they are all between the ages of 14 and 21, and they all come from low-income families.

The questionnaire administered to the selected enrollees provided the investigators with the following profile. The group is mainly between the ages of 16 and 18, with 58.5 percent being female. Negroes accounted for 52.1 percent of the respondents, whites for 42.6 percent, and the remainder was mainly Mexican Americans.

Only 7 percent of the enrollees were married. The educational level of enrollees in the In-School program was higher than that of Out-of-School enrollees: 41 percent of the former had completed the eleventh grade and only 5 percent had completed the eighth or less, while 40 percent of the latter group had completed the tenth or eleventh grade but 46 percent had completed only the ninth or lower grades.

Enrollees in the In-School program were surveyed as to the course of study they were following. The accompanying table indicates that about one-third of the respondents were following either vocational or commercial programs.

DISTRIBUTION OF (In-School) ENROLLEES BY CURRICULUM

Program	Percent
College prep	26.3
Vocational	13.9
Commercial	18.0
General	40.5
Other	0.3
No response	1.0
Total	100.0

Of enrollees participating in the study, 19.6 percent of them resided in rural areas (communities of less than 2,500 inhabitants). Nearly 55 percent lived in cities with populations of 100,000 or more. The average number of persons living in the households of the enrollees was five to six, and the majority of them have either parents or adult relatives living with them.

Family socioeconomic status was measured by an index derived from the following indicators: (a) occupation of head of household; (b) education of father (or surrogate); (c) education of mother (or surrogate); (d) number of household members; (e) flush toilet facility; (f) shower/-bath facility; (g) number of appliances in household, and (h) persons per room in household. In one-fourth of the households, no one other than the respondent was employed at all, and in another 15 percent of them, the only other employment was part-time or sporadic.

The school is a major determinant of the consumer behavior of NYC enrollees. Besides mandatory costs of school attendance, other costs carrying prestige value are present: transportation, food, clothing, extracurricular entertainment, class books, rings, etc.

School costs were estimated both by enrollees and by school officials in order to determine the extent to which enrollees were able to meet these expenses. The median yearly figure estimated by school officials for items of tuition, textbooks, supplementary reading materials, library fees, charges for special courses, locker fees, field trips, year books, class dues and lunch was $82.50. Extra expenses incurred by seniors for graduation ranged from $20 to over $80.

Another comparison was made between the expenditures reported by NYC enrollees and those reported by NYC eligibles who were on waiting lists. It was determined that expenditures for enrollees were higher, as they were able to spend more money on other school expenses (such as class rings) since they were making more money as enrollees in the NYC project.

In describing the amounts and sources of income received by enrollees, it was noted that only a minority of them had any income before entering the NYC. The general finding regarding expenditure of NYC-earned income indicates that the enrollee allocated it responsibly: for household maintenance, clothing, and educational expenses. Only small percentages were expended for recreation and luxuries. It was concluded that the material well-being of enrollees was considerably increased by their participation in the program: their wardrobes were more extensive, some had managed to save small amounts of money, and their total family income was increased by as much as 35 percent.

Although NYC enrollees selected for this study were generally pleased with the program, they indicated a desire to work more hours than are usually permitted under the NYC regulations.

The funding of the Neighborhood Youth Corps program was viewed as an effective antipoverty program. The income earned through the program reduced poverty, it was not expended frivolously, and its economic advantages extended to the families of enrollees.

Among suggestions for program improvement is that of an examination of pay rates, consideration of allowing longer hours of work and the development of more meaningful jobs.

NEXT ISSUE . . . In the final issue for this school year, *Research Visibility* will report on the topic, "The Development of Professional Personnel for Vocational-Technical Education."

Demonstration of a Comprehensive Educational Model

The TRY Project: A Demonstration of a Comprehensive Educational Model for Disadvantaged Youth. Final Report. Paul H. Sharar, et al. Training Resources for Youth, Inc., Brooklyn, N.Y. February 1969.

Training Resources for Youth, Inc. (TRY), was established in July 1966 as a demonstration training center for disadvantaged males between the ages of 17 and 21. It serves the Bedford-Stuyvesant section of Brooklyn, and was initially designed to accommodate 600 youths full-time for an average period of 12 months. Integrated in the TRY program were vocational training in skilled jobs, "Life-Skills education," counseling, basic skills, development, work experience, physical education, and recreation. Ancillary services, as health, legal and social services were also made available to the trainees.

In its first year, TRY recruited 708 youths, with 625 of them eventually beginning training. Of the training group, 544 completed the enrollment process and received training allowances for some period of time. Forty-eight percent of the actual enrollees graduated, 45 percent dropped out or were discharged, and 7 percent left the project for reasons not related to the program.

Seventy percent of TRY graduates were placed in jobs, with 76 percent of these entering training-related jobs, and 12 percent entering college. Seventy percent of the graduates had remained employed at least four months after graduation.

A finding considered to be the most important concerns "the possibility of being able to differentiate between several graduating groups and several potential dropout groups early enough in a training program so that differential educational strategies may be instituted to meet the specific needs of these groups." Groups which were identified through the TRY experience were: potential short-term dropouts, long term dropouts, training-related job-bound, and college bound.

Topic Four: Vocational Education for the Handicapped

See Bibliography for information on availability of complete studies

A Vocational Work Experience Program

Guided Occupational Training: A Vocational Work Experience Program for Intellectually Limited and Educationally Handicapped Students. Final Report. Morton H. Schwartzstein and Matthew Levy. The University of the State of New York, The State Education Department, Bureau of Occupational Education Research, Albany. June 1969.

Recognizing that up to 20 percent of the youths in this country are slow learners, the Guided Occupational Training program began work under the assumption that it is imperative that school and community agencies provide appropriate educational offerings and services for them so that they will remain in school and be provided with experiences that will enable them to earn a living. Twenty-four students were involved in the first year of the study. They were provided with a work-study program with a special curriculum, intensive counseling and on-the-job supervision.

The 24 students who entered the Guided Occupational Training program were selected from a group of 125 students who were found eligible for the project. The 125 students had been selected from the intellectually lowest 12 percent of the school district's population, and those who did not enter the program were used as a control group.

These students are not qualified to enter special programs for the mentally retarded, physically handicapped or emotionally disturbed. They do not perform well, however, in classes geared to the average or above-average youth. They are usually left out of any special program, but entered into the normal program for lack of a better place to put them. In the normal academic curriculum they fail to meet the standards of learning and either drop out or fail.

A special curriculum for slow learners was developed by the project staff. This was in the form of an instructional guide containing "concrete teaching suggestions, methodologies and specific activities to aid students in achieving the specific outcome desired." The core program included instruction in reading, writing, vocabulary, spelling, use of newspapers and magazines, library usage, grammar, citizenship education, and mathematics. In addition, each student was given specialized instruction in food service, distributive education, prevocational-industrial, or office skills education.

The belief upon which the program was based was that "if these youngsters were specifically taught to process information more effectively through an educational program vocationally accented, meaningful to them, and within the limits of their abilities, the experience of success will aid in the development of positive attitudes toward school and learning. These successes would also amplify the student's desire to remain in school and establish a more positive attitude toward entrance into appropriate occupations." The replacing of negative school attitudes with positive ones along with providing the student with saleable skills was the primary consideration.

The program took into account the characteristic differences of slow-learning children: that "intellectually they have a limited capacity to learn; academic achievement ranging from third through sixth grade at the age of 18; difficulty in engaging in abstract thinking; difficulty in handling symbols associated with reading, writing, and arithmetic; a reduced ability to see relationships between cause and effect; simple and superficial understanding, rather than understandings characterized by complexity and depth; limited ability to solve problems; trouble in expressing thoughts verbally and in writing."

Emotional characteristics of slow learners include depreciated self-concepts; non-recognition of their own strengths or weaknesses; and immaturity. Additional characteris-

tics are unfavorable past experience with school, including failure and adjustment problems; and the frequent placing of a low value on education by their families.

After one year's experience with the Guided Occupational Training program it was learned that this type of a program can provide benefits as:

1. An improved self-image nurturing a positive attitude.
2. Experiences of success in the classroom.
3. Opportunities for exploration of occupational experiences and finding of gratification.
4. Building of basic skills of communication, arithmetic and reading with comprehension.
5. Building of job cluster skills and knowledge.
6. Increased awareness and curiosity regarding arts and sciences.
7. Involvement with current events.
8. Development of positive attitudes toward democratic society.

Results of follow-up studies and surveys of the first year of the program indicated its success in (a) keeping students in school; (b) increasing employer satisfaction with the students; (c) increasing motivation, and (d) improving attitudes, school attendance and in-school behavior of the students.

Recommendations resulting from the first year's experience are that classes should be coeducational and should be composed of about 12 students. They should consist of highly structured sessions using textbooks. Negative student actions should be immediately disciplined and positive actions praised.

Frequent interchange (weekly meetings are suggested) between teachers and supervisors is needed. Homework assignments should not be given; field trips, lectures and good movies should supplement regular work. Students should be given responsibilities which they are capable of assuming. Classes other than the core class for which they are qualified and which would be of future aid, are encouraged. In time distribution for the work-study program, one full day's work was found to be beneficial in the development of character.

Papers Presented at National Conference

Papers Presented at the National Conference on Vocational Education of Handicapped Persons; Summary of Conference Work Groups. Pittsburgh University Program of Special Education and Rehabilitation, Pittsburgh, Pa. February 1969.

John W. Kidd, Special School District of St. Louis County, Mo., presented the topic, "Potential for Employment of the Handicapped," in which he called for collaboration of special educators and vocational educators in the training of handicapped persons. The collaboration would be particularly beneficial in determining course content and in the design of equipment, buildings and transportation for the handicapped.

Jerry C. Olson, Pittsburgh City Public Schools, presented concerns and considerations related to "Implementing Programs To Serve the Handicapped." They included: (a) the background of the federal legislation; (b) selection, educational experiences and placement of handicapped students; (c) national, state and local organizational and operational considerations, and (d) program development, implementation and management.

Ralf A. Peckham, Michigan Board of Education, in his paper on "Labor and Industry Look at the Training and Placement of the Handicapped," foresaw future planning for the handicapped to include a publicly supported insurance fund to relieve the employer of any "catastrophic penalties" which might occur should the job aggravate a preexisting medical problem of the worker. He advocated the establishment of an industrial program that "really means to deal with hard-core disability."

In his presentation titled "Comprehensive Vocational Preparation of the Handicapped: An Interagency Problem," Salvatore G. DiMichael, director, Institute for the Crippled and Disabled, New York City, cited the need for a partnership of the school and all agencies working with the handicapped. His suggestions for inter-agency cooperation included: (a) initiation of a statewide planning conference with representatives of vocational education, special education, professional associations, public and private service agencies, and handicapped individuals and their families; and, (b) preparation of plans for vocational education in state institutions and facilities.

G. Orville Johnson, Ohio State University, discussed "Integrated and Segregated Vocational Education Programs for the Handicapped." Stating that segregation and integration of handicapped children in the schools must be considered within the context of the objectives of the agency, Dr. Johnson stressed provision of meaningful experiences which will be valuable to the handicapped child in later life. Meeting this objective requires both segregation and integration in the program for handicapped youth; the relative degree of segregation depends upon student success and achievement.

Seven fundamental principles for organization of instructional programs for both the handicapped and other students were presented. Dr. Johnson stated that separate, segregated instruction should be recommended only when no existing class can be used to give the students the kind and level of instruction necessary, and that when a handicapped child is placed in a regular class, he should have the necessary skills and abilities to participate on an equal basis with the other children.

Jerry Miller of the Philadelphia City Public Schools presented a paper titled "The Education of Mentally Handicapped Youth in a Large Urban Community." He noted that the ultimate purpose of vocational education for the handicapped is to provide each student with the skill, training and ego-equipment vital to work and to live as a self-directing member of his family and community. Toward this end, there are eight areas of need in special/vocational education:

1. Early vocational orientation and programing.
2. Case management designed for maximum flexibility.
3. Improved pupil evaluation and follow-up.
4. Personnel and instructional materials.
5. Increased reality orientation in training programs.

6. Surveys to determine future job opportunities.

7. New specific programs for the various areas of handicap.

8. Continuing special/vocational education for adults.

Suggestions of conference work groups dealt with program administration, the instructional program, supportive services, personnel preparation, and new directions for vocational education of the handicapped. Recommendations called for systematic reporting of exemplary programs, coordination of planning efforts, and establishment of joint planning committees at local, state, and national levels. The handicapped should be integrated into existing programs wherever possible, and programs should be made flexible to accommodate the differences in both the handicapped and non-handicapped students.

Programs for Educable Mentally Retarded Youth

Guidelines for Establishing School-Work Study Programs for Educable Mentally Retarded Youth. Vol. 48, No. 10. William J. Younie, Ed. Special Education Service, Virginia State Department of Education, Richmond. June 1966.

This publication is the report of an Institute for Local Directors of Special Education which was conducted in Charlottesville, Va., in March 1965. It is intended as a guide for local administrators in establishing work study programs, and includes a brief examination of the background of such programs for the educable mentally retarded. Philosophical, instructional, organizational, curricular and administrative guidelines for the school phase of the program are included. The role of the Department of Vocational Rehabilitation in providing additional training and placement is considered.

Jennie Brewer compiled an historical perspective of the development of Special Education and Vocational Rehabilitation in Virginia. Parallels in the relationship of the two programs throughout their history were noted.

William Younie outlined the philosophical guidelines of school-work study programs for the educable mentally retarded:

1. The public school has a basic responsibility for providing programs for all children during the school years as defined by local law or regulation. These programs shall be designed and conducted so as to best meet the needs of the individuals assigned to them.

2. The educable mentally retarded shall have a special program but this program will not result in their being isolated from the society to which they must adjust after leaving school.

3. As with children of higher intelligence, the goal of economic self-sufficiency is recognized as being a vital objective for the educable mentally retarded. On the basis of information presently available, it is assumed that this goal may be reached most efficiently and effectively through a well structured, vocationally oriented program which is designated as a *school-work study program* or some similar term.

4. While the goal of economic self-sufficiency is considered primary to the school-work study program, it is not the only objective which is sought and should not overshadow other benefits which the school can provide.

5. The school-work study program cannot exist in isolation but must be a part of a total organizational plan which actively involves teachers at all developmental levels. This plan will consider the school-work experience program as its final instructional phase.

6. The teacher will function as a member of a total school team organized to give assistance to the educable mentally retarded child. The team will operate on the premise that while the teacher has specific responsibility for the child in the school-work study program, the entire school has general responsibilities which it must fulfill.

7. While the time in the child's life allotted to his education must not be wasted, neither must it be compressed so that there is not enough space for the testing, the teaching and the maturation that must take place. The child must have time to fail and to try again.

8. Because of the mental and social handicaps which characterize the retarded, the school is responsible for insuring that its retarded graduates receive adequate post-school services. This responsibility may be realized through the techniques of referral and the training of students in the use of community resources. The techniques imply close liaison between the school and local rehabilitation agencies of various types.

Implementation of this philosophy through an Educational-Vocational Continuum is also demonstrated by Mr. Younie. This continuum begins with the early school years in establishment of social skills, behavioral patterns, psychological adjustments and personal appearance standards. The development of these traits in the educable mentally retarded is different than in the normal or bright child. For the normal child these traits come naturally with regular school and family influences; for the retarded child these experiences must be made a part of a planned program.

Organizational guidelines for a work study program for the educable mentally retarded dictate that a program:

1. Is a bridge between school and work.

2. Must be preceded by good preparatory programs.

3. Must include careful screening techniques.

4. Must be step-bv-step.

5. Must set and limit the teacher's role.

6. Cannot exist in isolation.

7. Depends on the community for support.

8. Includes training in general vocational tasks.

9. Considers the parents to be vital.

10. Is not the sole answer to the problems of vocational rehabilitation.

11. Includes a systematic transfer program with the Department of Vocational Rehabilitation.

12. Includes vocational evaluation.

13. Considers follow-up to be essential.

Curriculum guidelines for school-work study programs for educable mentally retarded youth presented by Jennie Brewer and Howard L. Sparks include checklists for organi-

zation, the nature of the curriculum, physical facilities, the direction of learning, methods of evaluation, and outcome and general statements on the special classes.

Harrie M. Selznick presents a consideration of guidelines including administrative directions, curriculum areas to be included, program details, personal problems for consideration, and means of cooperation with other agencies.

The role of State Rehabilitation Services is outlined by R. W. McLemore in order to guide administrators in effectively referring the mentally retarded for vocational rehabilitation services. Illustration of the concepts discussed in the report are made through brief reviews of sample terminal programs.

Program Implementation

Vocational Education for Handicapped Persons: Handbook for Program Implementation. Earl B. Young, ed. August 1969.

This handbook was developed from the proceedings of the National Conference on Vocational Education of Handicapped Persons, the papers from which are also abstracted in this issue of *RV*. Following the National Conference, nine regional clinics were conducted at which ideas from the conference were refined and further suggestions were made for incorporation into this handbook.

The handbook is designed to answer specific questions regarding program implementation, with a total program concept offered as a guide. Variations in program implementation are expected to occur because of differences in geographic and administrative situations in each state.

The scope of services is outlined for various classes of handicapped (educable and trainable mentally retarded, speech, hearing, visually, crippled and health impaired, and the emotionally disturbed and socially maladjusted).

Examples of effective State and local involvement are given in a section of the handbook titled "Organizing for Cooperation—Interagency Involvement." The examples include programs of the State of Texas, the Detroit Public Schools (Galaxie), the Oakland Unified Public School District providing an after-school program in automotive service, and other case studies selected from the 1968 Social, Educational Research and Development, Inc., study of vocational education programs for persons with special needs.

Services available to the handicapped from public vocational rehabilitation programs are outlined: (a) counseling and guidance, (b) physical restoration, (c) personal adjustment, prevocational and vocational training, (d) maintenance, (e) placement, (f) follow-up, (g) transportation, (h) reader services for the blind and interpreter services for the deaf, (i) services to members of a handicapped individual's family, and (j) other goods and services to make the individual employable.

A model for a statewide cooperative agreement prepared by the Indiana Department of Public Instruction, Division of Special Education, Division of Vocational Rehabilitation, and Division of Vocational Education is included in the handbook for use as a guide by administrators. A presentation and review of programs and services appropriate for handicapped secondary students who cannot succeed in regular vocational education is also made.

Recommended program components are: (a) prevocational evaluation, (b) communication skills, (c) computational and quantitative skills, (d) occupational information and civic responsibility, (e) skills training (OJT-training), and (f) placement and follow-up.

Problems unique to the provision of services to the handicapped in rural areas are investigated and a mobile evaluation laboratory now in use in the Champaign, Ill., public schools (The MOVEX Laboratory), is given a capsule description. The role of the community in vocational education services for the handicapped is demonstrated. Personnel preparation and utilization are discussed. Suggested sources of teaching materials and assistance are offered.

Courses for Educable Mentally Retarded Students

A Pilot Project in Curriculum Development for "Work Experience" and "Occupations" Courses for Educable Mentally Retarded Students. Marvin C. Groelle. Oakland Unified School District, Oakland, Calif. August 1967.

This project was initiated as the result of the two pilot projects conducted by the Oakland Unified School District in the 1959-60 and 1962-63 through 1964-65 school years. The project, conducted during the 1965-66 school year, had as its general objectives:

1. The training of educable mentally retarded (EMR) students for successful employment in less skilled service and repetitive type vocations.
2. The development of vocational skills, attitudes and knowledges necessary for successful employment.
3. The development of better adjustment techniques.
4. The development of attributes of neatness, personal grooming, punctuality, satisfactory interpersonal relationships and job skills.
5. The raising of the academic skill levels of the EMR to a point consistent with realistic vocational interests and abilities.

To accomplish these objectives it was planned that the project would develop instructional materials as job application forms, job descriptions and interest inventory forms in a form usable by the EMR. Also, job placement and follow-up methods and materials, group counseling techniques, job application techniques, and teacher guides were to be produced. The use of commercially produced textbooks was to be made as far as possible with re-writing to accommodate lower reading levels.

The entire project consisted of the development of these materials and techniques, the establishment of a program in five high schools with a total enrollment of approximately 100 EMR twelfth grade pupils, and an evaluation of the program, materials and procedures. The program was to be a functional vocational training program including classroom instruction and an on-campus work experience program combining two periods per day for courses in "Occupations" and "Work Experience."

The programs were conducted

during the 1965-66 and 1966-67 school years. The work experience activity, an integral part of the program, was conducted as follows: students were introduced to job opportunities within the school through tours of the campus and visits to classes by personnel under whom the work would be done. Jobs were described in terms of qualifications necessary and future employment opportunities. Application for jobs was made by the students, and after "hiring" they were paid incentive allowances on sliding scales for their work and its successful performance. Job rotation was encouraged to broaden student experiences.

Conclusions of the project indicate: (a) the greater effectiveness of teacher-prepared materials as compared with commercially prepared and rewritten textbooks; (b) student placement in service occupations emphasizes need for human relations aspects of the program; (c) job placement of EMR students is most opportune in early fall, and therefore the program should be active during the summer months, and (d) incentive pay for work was found to be a successful motivating technique.

The refining of group counseling techniques used in the program is necessary. Student reaction to role-playing situations and tape recording was less serious than that given by the EMR to written materials. Possibly the imagination necessary for role-playing to be successful was lacking in these students, and the situations were often considered amusing rather than instructional.

Improving Slow Learners' Job Placement Opportunities

Revised Instructional Program for "Slow Learners" to Improve Their Job Placement Opportunities: A Three Phase Study." Jack Sutton. Medford School District No. 549C, Medford, Oregon. June 30, 1967.

This three-phase study was originally scheduled for completion over a three-year period with funding from the U.S. Office of Education. Phase I, a survey of job opportunities for "slow learners" in the community and orientation and education of business and industry representatives, and Phase II, revision of the high school curriculum offered this group, were conducted during the first two years of the project. Due to Office of Education decisions not to fund continuation programs in school year 1967-68, the final phase, that of field trials and demonstrations, was delayed until local funds could be arranged.

Features which distinguished this project from commonly accepted practice were cited as:

"1. Establishment of a curriculum especially designed to meet the needs of 'slow learners' with special groupings established within academic areas, taught by teams of teachers in specified blocks of time which would vary from the one hour per day per subject now followed.

"2. Election of non-academic subject . . . guided by counselors in accordance with the potential of the individual 'slow learner' as correlated with job opportunities for 'slow learners' in the community as established by the total study.

"3. Homogeniety within academic and non-academic courses with a basic purpose of preparing the student for specific job opportunities as established by the study, and training him in the knowledge and skill necessary to meet requirements of jobs as established by employers.

"4. Establishment of a job placement service to assist the 'slow learners' in locating jobs within the community.

"5. Establishment of the curriculum in adult education night classes to make this training available to previous dropouts."

Due to the necessity of continuing funding for this project through local resources, it is expected that final completion of it will be delayed by at least two years.

plain talk

George L. Brandon, Editor, Research Visibility

And some day—let's get organized. The tedious growing pain of getting together to do a job—creating an effective, functional organization—is nowhere more glaring and striking than it is in our efforts to gear up for research and research utilization in vocational and technical education. This fact has been historically true since the dawn of the twentieth century despite provisions of legislation which attempted to foster surveys and studies of the vocational program.

To be somewhat more contemporary with our criticism, the same fact finds little consolation in our research efforts since 1963 and the advent of specific vocational funds for investigation and study purposes. To those who believe otherwise, confront the $64 million federal expenditure of FY 1965–1969, and raise the question, "So what?"

The fact does not mean that no progress has been made. But to remove ourselves from the sour note of pessimism and face up to the challenge of the seventies, where do we go from here? The humorous admonition of those cocktail napkins which depict two executives squaring off for the future while indulging themselves in the happy-hour posture over the caption, "Tomorrow, let's get organized," may carry an appropriate message and resolution if only by innuendo.

Effective organization may be thrust upon us—or else. The political fiasco and the many conditions which have given birth to it, and out of which ultimately must come the necessary provisions of vocational education, are, indeed, ugly to behold. Apparently, the concept and performance of statesmanship has disappeared for some substitute in which everyone does his thing. The presidential veto of the HEW-Labor appropriations bill, among many comments of education's wastefulness, drew the following "gem" of insight into our program:

> A truly scandalous increase is $200 million in funds for vocational education. A sounder move would have been to strike out the more than $200 million already in the bill.
>
> The vocational education program is the most entrenched of the school lobbies,

dating back to the early years of the century, and consists largely of the purchase of shop equipment and the training of students for long-vanished jobs.[1]

This sweeping appraisal of the vocational program is sufficiently ridiculous and the outgrowth of ignorance (or prejudice) that it merits no serious rebuff to the writers. It is an illustration, however, of the extent of ignorance (or prejudice) which exists and which is peddled to the man on the street. Does the condition suggest a need for organization and public relations?

More seriously, if this state of ignorance and prejudice characterizes the understanding of the *total* vocational and practical arts program as it is commonly found in the nation's public schools, what perception is held of vocational research and its utilization? No doubt, most of the difficulty lies in unwillingness—on the part of each of us—to be really serious and personally committed to public relations for the program and the provisions to support it. As a result, what seems to be accepted as *everyone's* job turns out to be *no one's*. We are slow learners, indeed!

The Arizona RCU Bulletin throws the same pitch. Art Lee, director of the Arizona RCU (and president-elect of AVERA) in the January 1970 edition of the *Bulletin* beats the same drum for organization and support of research in soliciting membership for AVERA. It should be made emphatic that he is calling for the back-up of *all* vocational educators—not just the researchers. His column states it better than I do, and he adds a price tag.

Membership is open to all vocational educators interested in research—university researchers, state department personnel, private citizens and students. Dues (AVERA) are $2.00 for the balance of the school year, then $5.00 annually beginning July 1970. AVERA needs the support of every individual in or out of vocational education who is working on a research project, or is involved in any way in changing the direction of vocational education through research. Anyone wishing to join may send $2.00 to the Arizona RCU and it will be forwarded to the membership chairman, George F. Outland, in San Mateo, Calif. Please make checks payable to AVERA.

Dr. Lee also makes available for the asking copies of the *Bulletin* (and possibly other publications which are annotated) to persons who are interested. Make your requests of the *Bulletin*, 1333 Camelback, Phoenix, Ariz. 85013.

Speak out for research and its benefits as you see them. Vocational educators and other AVA members have another point of visibility and action for research if they wish to spark it. This focus is in the AVA's Department of Research and Evaluation, particularly its Planning Committee. The Planning Committee, similar to the planning committees of the other AVA Departments, is made up of representatives of the various AVA divisions in which every member has a "home base."

The officers and members of the current Planning Committee are.

Agricultural Education: Earl H. Knebel, Texas A and M University, College Station, Texas 77843.

Business and Office Education: Charles Newman, State Department of Education, P.O. Box 480, Jefferson City, Mo. 65101.

Distributive Education: Neal Vivian, College of Education, The Ohio State University, Columbus, Ohio 43210.

Home Economics Education: Helen Nelson, Cornell University, Ithaca, N.Y.

Industrial Arts: Wilbur Miller, University of Missouri, Columbia 65210.

Trade & Industrial Education: Gordon McMahon, State University College, Oswego, N.Y. 13126.

New & Related Services: Vernon E. Burgener, Educational Planning Association, Inc., 2007 S. MacArthur, Springfield, Ill. 62704.

Technical Education: Aaron J. Miller, Center for Vocational and Technical Education, 1900 Kenny Rd., Columbus, Ohio.

Guidance: Edward Herr, College of Education, Penn State University, State College, Pa. 16802.

Health Occupations Education: Robert M. Tomlinson, University of Illinois, Urbana, Ill. 61803.

Maybe a small sample—but our attitudes are showing. It's interesting what a little research will show, how far we have come, and how far we have to go. The following may illustrate an attitude, and a task ahead for vocational education and employment:

How much acceptance do the handicapped really have in America? To find out, Roper Research Associates recently queried a sampling of 1,000 adults across the nation. Its findings were disconcerting.

Those interviewed were shown three hypothetical case histories of a mildly retarded young man, a blind young man, and a young man crippled by a birth defect.

Half of the persons favored institutionalizing the retardate; over one-third favored institutionalizing the blind man; over one-fifth, the crippled young man (out of sight, out of mind?).

Fifty-eight percent favored sheltered employment for the retardate; 45 percent for the blind man; 39 percent for the crippled man.

Only 16 percent believed the retardate should work side-by-side with others at a regular job; 44 percent, the blind man; 36 percent, the crippled man.

In each category, please note, more than half the people believed the handicapped should *not* be in regular employment. So there is great need for our most concentrated efforts to help change America's attitudes toward the handicapped.[2]

[1] Frank Mankiewicz and Tom Braden, "Hill Debate Over Veto Should Focus on HEW Bill's Wasteful Defects." *The Washington Post*. Jan. 27, 1970.

[2] *Communications, A Program Guide 1969-1970*. The President's Committee on Employment of the Handicapped. Washington, D.C. 20210. p. 11.

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CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC*, a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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GUEST EDITORIAL

The Vocational Educator and Personnel Development

WILLIAM G. LOOMIS

Professional soul-searching, not unlike making a good five-minute speech, is at its hardest as a guest editor or "critic of the month." The monthly RV allocation of introductory space to a professional topic imposes special constraints to the editor, veteran as he is of "say it and run." Possibly to the guest editor, it is a true test of professional friendship, or at least a personal clash with his vocabulary in making few words count most.

William G. Loomis, a veteran vocational educator, runs the educational gamut this month. As chief, Vocational Education Development Branch of the OE's Bureau of Educational Personnel Development (currently on leave of absence from the Oregon State Department of Education), he is in a strategic position both to see and influence change in the preparation of vocational personnel for more effective teaching, leadership and supplementary services for our vocational youths and adults.

If there is a comparable label for "Mr. Manpower," Dr. Loomis could acquire the moniker, "Mr. Vocational Education Manpower." His stand is solid and firm that good teaching and leadership are the alpha and omega of relevant vocational education. Does this postulate show through in his editorial? RV is indebted for his efforts.—GLB

IF VOCATIONAL-TECHNICAL education is to reach its potential in the public school system of this country, our educational values must undergo some radical changes. The key to change in education is change in people. The number and quality of people who staff our vocational-technical education programs determine the effectiveness of such programs.

We've been a long time learning this seemingly elementary concept. We have been preoccupied with the problems of buildings and programs and levels of financing. But no vocational education program, regardless of the kind of building in which it is conducted, regardless of its content, regardless of how well it may be financed, can be effective without people prepared to make it so.

At no time in the 50-year history of our nationwide system of vocational education has its future potential been so great—and yet also so dependent upon the availability and competency of professional practitioners.

Vo-Ed Faces Teaching Shortage. The big news in American education last fall was that the national teacher shortage which has plagued us since World War II was finally beginning to ease. Unfortunately, we cannot be as sanguine about the situation in vocational-technical education. The latest statistics available indicate that we are going to have to double our vocational education teaching force over the next five years—just to stay even with increasing enrollments. And we simply aren't producing vocational education personnel in anywhere near the required quantity.

The projected enrollment increase will occur without any special effort on the part of educators—either vocational or academic. It will occur because society demands it.

Thus it behooves those of us engaged in vocational-technical education to make a conscious effort both to accelerate the process of bringing new practitioners into the field and to improve the effectiveness of those who now staff our vocational education program, including ourselves. We can do a more effective job and increased effectiveness can be learned. But substantial increases in self-effectiveness can be accomplished only by a personal commitment on the part of each of us.

State Plans Are Developing. The federal government and most states are beginning to do their share. With federal assistance under the new part F of the Education Professions Development Act (Title II of the Vocational Education Amendments of 1968), the states are developing, for the first time in most instances, both short and long-range statewide vocational education personnel development plans. Central to such plans are new approaches to professional development and greatly enhanced opportunities for experienced teachers and other personnel to participate. This includes a new national graduate leadership program. Details about a specific state program may be obtained from the office of the state director of vocational education.

A major objective of these activities is to break down the barriers between inservice and preservice training. The preparation of vocational-technical education personnel should become continuous, with col-

leges, school systems, and industry participating as both producers and consumers.

The role of the individual practitioner in all this is self-renewal. And self-renewal requires self-discipline. In professional activities this should be directed toward increased effectiveness which can be measured in terms of student performance. As educators, we are paid to deliver educational services in the most effective manner possible.

Self Direction Is Necessary. Professional personnel in vocational-technical education frequently are not supervised closely or in detail. They must direct themselves, and ideally such self-direction includes self-discipline which requires:

First, that you analyze your time and eliminate unnecessary activities.

Second, that you think through your own goals and those of your organization and have a concern for values.

Third, that you capitalize on available resources, including your associates, your organization, and your own strengths.

Fourth, that you identify major priorities and decide which task or priority warrants your immediate concentration.

Finally, that you learn to make decisions in a systematic manner. Making effective decisions normally involves clearly defining the elements and following a distinct sequence of steps.

Self Development Is Crucial. Our present educational system presumes that large-scale operations can be effective in terms of student achievement. Increasingly these systems depend upon the performance of the teacher as a professional. He must perform as an effective manager of his operation and assume responsibility for the results of the whole. By the nature of his knowledge and work he makes decisions which have an impact upon the performance of the entire system.

Thus, the self-development of effective vocational education personnel—especially the teacher—is crucial to the development of the entire educational organization, whether it be a secondary school, a community-junior college, an area vocational school, or a state or federal education agency. As the individual increases his effectiveness, he raises the performance level of the entire organization. He raises his own sights—and those of others as well.

Your Help Is Needed. Unfortunately, truly effective educational systems appear to be in the minority. They are even more of a rarity than effective professional personnel. Educational systems and the personnel who staff them need to work systematically on increasing effectiveness.

The development of vocational education personnel effectiveness, based on performance criteria, obviously is essential if we are to deliver educational services to the increasing flood of students enrolled in vocational-technical programs. A model personnel development program may exist in your state or organization, but in the final analysis your own personal "inservice" self-development program, built upon self-discipline, is the key to effective personnel development throughout the vocational education community.

The federal government and the states are beginning to do their share. They need your help.

Identification of Opinion Leaders Among Teachers

The Identification of Opinion Leaders Among Teachers of Vocational Agriculture. Final Report. James W. Hensel and Cecil H. Johnson. The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. June 1969.

A problem in vocational agriculture education is the nonutilization of research results by practitioners. It has been suggested that one cause of the gap between research and practice is the lack of a linking agent or interpreter between the researcher and the teacher. A search of the literature on this subject further suggested that "opinion leaders" be utilized as a means through which change agents (researchers) might reach the ultimate audience comprised of teacher practitioners.

This project was conducted to develop a means of identifying opinion leaders among teachers of vocational agriculture and to determine selected personal and social characteristics of opinion leaders among vocational agriculture teachers.

A review of research and literature related to the identification of opinion leaders determined three primary techniques of measuring the extent to which one is an opinion leader: the sociometric, the self-designating, and the key informant techniques.

The sociometric technique consists of asking group members to whom they go for advice and information about a specific idea. This technique is most frequently used.

Second most often used is the key informant technique which consists of asking persons likely to know who the opinion leaders are to designate opinion leaders.

The self-designating technique consists of asking a respondent a series of questions to determine the degree to which he perceives himself to be an opinion leader.

A questionnaire was administered to 272 of the 279 vocational agriculture teachers of South Carolina at the time the study was conducted. For testing of the sociometric technique, teachers were asked to identify other teachers of vocational agriculture in the state from whom they would seek advice and information before they would make a major change in their program. In addition, they were asked to name individuals whose advice they would seek in each of 11 program categories. The number of times a teacher was named in each of these 11 categories determined his sociometric score, with those being named four or more times being classified as opinion leaders.

Use of the self-designating technique was made through a six-item scale, with a possible score of from 0-6 points. Teachers scoring 4-6

points were categorized as considering themselves opinion-leaders.

Individuals who were familiar with all respondents (district supervisors of agricultural education) were asked to rate each of them on the degree of opinion leadership he demonstrated in a specialized area of the program. This method was used to determine the effectiveness of the key-informant technique.

The sociometric technique was found to be an effective method of identification of opinion leaders; however, the need for this technique to be administered to all teachers of vocational agriculture within a state may make its widespread utilization unlikely. More realistic is the key informant technique, which correlated highly with the sociometric technique. The results of this testing indicate that state supervisory staff members can readily identify opinion leaders.

The second objective of the study —determining whether personal and social characteristics can be used in the identification of opinion leaders— produced the finding that very few personal or social characteristics differentiate this group from other teachers.

Topic Two: BUSINESS EDUCATION

See Bibliography for Information on availability of complete studies

Preparing Teachers To Work With Disadvantaged Youth

Cross-Cultural Values in Office Education With Emphasis on Inservice Teacher Education. Report of a Regional Institute. William L. Winnett. The Center for Vocational and Technical Education, The Ohio State University, Columbus, and Department of Business Education, San Francisco State College, California. September 1968.

This institute, together with ones at Hunter College and Temple University, constituted Phase IV of a program for improvement of office education programs for the disadvantaged. Other phases consisted of identification of the perceptions of disadvantaged youth toward office work, and development and field testing of new materials for use with these students.

The two-day institute, which was held at San Francisco State College in June 1968, was attended by 20 selected participants. It attempted to develop materials helpful to teachers in preparing themselves for working with disadvantaged youth. Specifically, the institute was planned to:

1. Analyze the sociological and environmental factors relevant to office education for disadvantaged youth.

2. Learn of special programs within the business community to train and employ disadvantaged youth.

3. Learn to make effective use of community agencies concerned with the problems of the disadvantaged.

4. Develop activity units to assist inservice teachers in becoming more aware of the learning problems of disadvantaged youth.

5. Develop various units as examples of content and method appropriate for use in office education classes for the disadvantaged.

Among activities of the institute were four types of field experiences: (a) visits to community agencies and other neighborhood environments; (b) interviews with supervisors and workers in offices where disadvantaged youths were employed; (c) observation of classes and other formal training programs in business, and (d) participation in a business class in a senior high school and a class in a junior high school with large enrollments of disadvantaged students.

Follow-up activities included the implementation of new methods and materials through reports at department and district curriculum meetings, working with professional organizations, use in classes, and influencing other teachers, administrators and counselors. The effect of the institute was assessed through a last-session evaluation, and through reports to the institute covering topics of change in teaching methods, influence on other teachers and administrators, change in student attitudes and achievements, reactions of other teachers, and the use of materials developed during the institute.

The report includes examples of three types of materials developed during the institute:

1. Sensitivity units designed as suggested activities to develop teacher awareness of the learning problems of disadvantaged students.

2. Instructional units particularly appropriate for use with disadvantaged students.

3. Suggested titles for additional sensitivity units.

Topic Three: DISTRIBUTIVE EDUCATION

See Bibliography for Information on availability of complete studies

Career Development

Pilot Training Project for Teachers of Distribution and Marketing, Focusing on Responsibilities for Career Development. W. Wesley Tennyson and Warren G. Meyer. College of Education, University of Minnesota, Minneapolis. Dec. 15, 1967.

This training project was Phase II of a two-phase project conducted during the summers of 1966 and 1967 at the University of Minnesota.

Phase I had provided 30 DE teachers with distributive occupational experience in two business firms. The purposes of this phase were to: (a) explore the value of directed occupational experiences and observations in developing selected teacher competencies; (b) update the teachers' occupational experiences, and (c) develop sets of occupationally oriented learning activities for preparatory and cooperative classes at high school and post-high school levels from the occupational experiences of the training project members.

Three forms of instruction (didactic, group process, and an integrative seminar) were utilized to achieve the goals of Phase II of the workshop. These goals were stated as:

1. To implement in the distributive education curriculum values ac-

quired from directed occupational experiences and observations in Phase I for the purpose of facilitating career development.

2. To identify additional concepts of occupational behavior and work in a changing society which should be incorporated into the distributive education curriculum.

3. To translate and implement principles and concepts of career development theory and occupational information within the distributive education curriculum.

4. To develop and try out occupational-oriented learning and guidance materials and activities that aid students in their career development.

5. To demonstrate ways in which personal development can be facilitated through vocational application of instruction.

6. To teach ways of utilizing occupational stimuli provided by the supervised occupational experience for the purpose of clarifying the student's self and goals.

7. To help youngsters develop self-exploratory, judgment and decision-making skills.

8. To develop greater effectiveness in human relations and competency in human relations training.

9. To develop self-understanding, attitudes and skills which will enable the teacher to perform more effectively in supervision and counseling.

A demonstration class of 15 high school students was used as a testing ground for techniques being taught to project participants. Two teacher-participants were assigned to counsel each student and to coordinate his on-the-job training.

Responses to a Self-Report Questionnaire completed by participants following the workshop indicated trainees felt that they had gained a better understanding of themselves and of others. It was recommended that individual counseling be a part of distributive education programs, and that DE teachers should receive special training in this field.

Also, training in the psychological and social dimensions of work should be provided for cooperative students. Sensitivity training, small-group seminars and individual counseling are valuable in helping the teacher to become more effective in interpersonal relations. It was recommended that this type of training course be offered all DE teachers.

Project Plan of Instruction

Program Development Through the Project Plan of Instruction: An 18-Month Post-Seminar Evaluation of the National Seminar on Distributive Teacher Education. Final Report. Department of Secondary Education and Curriculum, Michigan State University, East Lansing, Mich. 1968.

The seminar evaluated in this publication was held in two geographical sections, one for the East and one for the West, in May 1967. In all, there were 52 participants, the majority of whom were teacher-educators. Development of knowledge and understanding of the project method of instruction, both in theory and in actual classroom use, was the main purpose of the seminar. Improvement of the content and design of teacher education programs related to project method teachers was sought.

The seminar program included papers presented by guest lecturers and development of reports by task force groups consisting of seminar participants. Task force reports were developed around the project plan in the school and classroom and in teacher education.

Three publications resulted from the seminar: *Readings in Distributive Education—The Project Plan of Instruction and Related Teacher Education; Guidelines for Implementing the Project Plan of Instruction in Distributive Education in the Schools,* and *Guidelines for Implementing the Project Plan of Instruction in Distributive Education Through Teacher Education.* These publications are available through ERIC.

An evaluation performed 15 months after the seminar evidenced the following outcomes:

1. The seminar had stimulated participant thinking and understanding of the nature and process of the project plan of instruction.

2. Participants had taught the project plan method to more than 680 teachers, who in turn had reached more than 2,400 students in project method courses.

3. Presentations had been made to more than 80 audiences by participants regarding the project plan.

4. Seminar publications were being used in teacher education classes.

5. Fourteen books, papers, or articles on the plan had been published or accepted from participants.

6. Seven research or curriculum studies on the plan had been undertaken.

Support from the U.S. Office of Education for resource production and knowledge dissemination of the project plan was recommended. Teacher education seminars, workshops, curriculum development projects and follow-up studies were also recommended means for further informing teachers and prospective teachers about the project plan.

Topic Four: HEALTH OCCUPATIONS EDUCATION

See Bibliography for Information on availability of complete studies

Teacher Education Institute

Teacher Education Institute for New Health Occupations Education Teachers, Final Report. Lewis D. Holloway. The University of Iowa, Iowa City. January 1969.

Twenty new teachers in the field of health occupations education participated in this institute from July 29 to Aug. 16, 1968. Although they were well prepared in health specialties, few had little previous formal teacher preparation. This institute was designed to provide participants with basic knowledges and skills for teaching.

Proceedings at the institute included formal classroom presentations, self-instruction, assignments, informal "gab sessions," and micro-teaching.

Major areas of instruction were concerned with training participants to: (a) make decisions regarding working with students based upon knowledge of the process of learning; (b) write and use objectives stated in behavioral terms; (c) select appropriate type and depth of learn-

ing experiences necessary for implementing a suggested or previously developed curriculum; (d) do effective lesson planning; (e) show familiarity with a variety of instructional methods; (f) make effective classroom presentations; (g) show familiarity with a variety of instructional media, and (h) construct valid classroom tests.

Effects of the institute were evaluated through pre- and post-institute rating scales, an institute evaluation form, follow-ups by both the trainees and their immediate supervisors, ratings of the trainees' microteaching presentations, and an instructor evaluation. It was concluded that the institute had been successful in accomplishing its goals.

Suggestions for improvement of future institutes included the need for involvement of both instructors and trainees from health fields other than nursing, limitation of the institute to a length of two weeks, and the necessity of having additional introductory materials available which could be sent to participants prior to the institute.

Topic Five: HOME ECONOMICS EDUCATION

See Bibliography for Information on availability of complete studies

Maximizing Teacher Potential by Group Counseling

An Experimental Attempt To Maximize the Professional Potential of Home Economics Teachers Through a Program of Group Counseling in College. Final Report. Elizabeth M. Ray. Pennsylvania State University, University Park, Pa. February 1968.

This study was based on the premise that prospective female teachers often face a dilemma of conflict of professional expectations and commitments with their personal and marital commitments. The experiment attempted to determine whether group counseling would be helpful in sorting out their conflicting demands and to clarify the relation of their future professional status to role standpoints.

Objectives of the study were:

1. To investigate the influence of group counseling in reducing anxiety and identity stress among prospective home economics teachers.

2. To study the interrelationships among scores on measures of professional commitment, self-concept, self-actualization, and concern for the student.

3. To determine, through content analysis of transcriptions of recorded counseling sessions, the nature and sources of actual and anticipated conflict indicated by students who are entering the final state of preparation for teaching.

It was hypothesized that students in groups which had experienced group counseling would differ significantly in test scores from those who had not experienced counseling. Tests used to measure changes in self-actualization and self-concept were Loftis' Measure of Professional Commitment, Bills' Index of Adjustment and Values, Shostrom's Personal Orientation Inventory, and Ray's Student's Estimate of Teacher Concern.

A second hypothesis was that no difference would occur between the grades achieved in professional courses and in scores on the Rating Scale for Student Teachers for the two groups.

Counseling provided for test groups was of a non-directive, laissez-faire type and coincided with three integrated courses which were offered in the first of a two-term sequence of professional preparation for prospective home economics teachers.

The first hypothesis of the study was not borne out by test scores of the two groups. "There were no systematic differences attributable to the experimental treatment, therefore it was concluded that the particular regimen of group counseling attempted in this study was not effective in bringing about differentiated behaviors and attitudes on the part of the participants."

Because of evidence procured from records of counseling sessions that prospective teachers were experiencing conflict, anxiety and identity stress, there remained a possibility of finding measurable differences between counseled and non-counseled subjects through development of a measure devised by abstracting the transcribed statements. This measure consists of various personal professional role preference factors described as: professionally centered, problem centered, family centered, self centered, and opportunity centered role preferences.

Results of the study indicate need for further experimentation with group counseling and teacher education for both men and women. Transcripts of counseling sessions evidence many additional fields of conflict other than the professional/marital role conflict upon which this study was planned.

Preparing Teachers For Occupational Programs

Institute for Home Economics Teacher Educators on Preparing Teachers for Occupational Programs. Final Report. Alberta D. Hill. Iowa State University of Science and Technology, Ames. February 1968.

The new focus brought to home economics education by the 1963 Vocational Education Act—that of occupational home economics training—requires the development of training programs to prepare teachers for occupational education.

This institute was scheduled to: (a) identify policies and examine existing philosophies of vocational education affecting teacher education in home economics; (b) identify qualifications needed by teachers for the various types of occupational programs; (c) plan flexible and adaptable programs for preparation of home economics teachers for occupational education teaching, and (d) develop guidelines for the evaluation of teacher effectiveness in occupational education programs in order to revise the teacher education programs.

The institute was held at Iowa State University from July 24 to Aug. 11, 1967, with 30 teacher-educators participating. The program included daily sessions involving lectures, discussions, observations, and individual and group work. Reference lists and materials were made

available to the participants in conference rooms.

Each participant worked individually or in small groups preparing a specific teacher education plan. Refinement of these plans was continued after the institute, with revised plans being returned to the institute director by Jan. 1, 1968. Summaries of teacher education plans which were developed are included in the report.

Ideas and conclusions developed by institute participants regarding the purposes and philosophies of home economics education were that:

1. The philosophy of vocational education must fit into a larger educational philosophy and a philosophy of life.

2. The best opportunities for learning come from the combined efforts of teachers involved in the team approach.

3. The three major purposes of home economics education are to prepare learners for gainful employment, to prepare youth and adults for homemaking or family living, and to prepare women for their dual roles as homemakers and wage-earners.

4. Basic beliefs should be evaluated before applying new techniques, designing new courses or developing new projects.

5. Resistance to change may be a manifestation of insecurity.

6. The commonalities of homemaking teachers and occupational home economics teachers should be identified.

7. There is a need for a sound philosophy of vocational education, a firm commitment that home economics can serve the dual purpose of training for homemaking and wage-earning, and enthusiasm and interest in helping inservice and preservice teachers become involved in developing creative ideas for implementing programs.

8. There are possibilities of strengthening the gainful employment classes by supplementing with useful homemaking courses.

9. The degree of success which home economists achieve in fulfilling the goal of preparing persons for gainful employment is directly related to positive and firm commitment toward this aspect of the total educational program.

The need for cooperation and integration within vocational education was expressed in the following statements of institute participants:

1. Educators can interact constructively on common problems when the environment for interaction provides new experiences in non-threatening situations.

2. When all of those engaged in vocational education work together more closely, a better understanding of the purposes of each group will be developed.

3. Integration of effort is needed among the local teachers, teacher educators, and state department of education as well as between business and education.

4. One vital part of cooperation is willingness to support an idea.

Implementation of plans, it was concluded, should include informing the community of the possibilities for wage-earning programs for home economics-oriented jobs, and a "soft sell" of the home economics occupational programs when a community needs to justify the effort.

The institute brought recognition to the problem of research: the need for utilization of research that has been done, the need for more "good" research, as well as the need for accessibility of research to the practitioner.

Suggestions for teacher preparation and growth were:

1. The teacher needs to know what he is teaching, the subject matter content, but even more important is the feeling he has for another human being—his awareness, understanding and empathy for the individual as an individual and as a member of a group.

2. Gainful employment should be an integral part of the total program.

3. Home economics teachers who are to teach courses designed to prepare persons for gainful occupations need to be involved in developing materials, in work experiences, and in making surveys and job analyses.

4. Teachers and supervisors need to re-orient themselves to the world of work because of the innovations in methods, materials and organizational structure of industry.

5. If professional people expect to keep up-to-date it is important that they attend professional meetings.

It was suggested that the techniques developed in this institute could be used to strengthen other areas of teacher education and other aspects of the total college program.

Food Service Supervision

Institute for Home Economics Teachers on Initiating, Developing and Evaluating Programs at the Post-High School Level To Prepare Food Service Supervisors and Assistants to Directors of Child Care Services: Vol. I: A Post-High School Program in Food Service Supervision Vocational Education in Home Economics (May 1, 1966-June 30, 1967). Final Report. Aleene A. Cross. College of Education, University of Georgia, Athens. 1967.

Fifteen selected teachers, supervisors and teacher-educators from seven southern states attended this three-week institute. Its purpose was to develop the ability in the participants of initiating, developing and evaluating programs for training workers in selected occupations utilizing home economics knowledge and skills. Specific objectives were to:

1. Become acquainted with procedures for initiating occupational education programs.

2. Gain up-to-date knowledge about food service.

3. Develop skill in planning programs at the post-high school level in food service.

4. Develop resource materials and suggested instructional aids for use in such programs.

5. Become acquainted with procedures for evaluating occupational education programs and to develop evaluation devices for programs in food service.

Three related phases of effort were planned as a means of reaching the objectives. Phase I consisted of instruction in procedures for initiating and organizing occupational education courses, and in up-to-date course content in food service. In Phase II materials and instructional aids for occupational courses for food service workers were developed. Evaluation of programs was treated in Phase III.

Curriculum materials developed at the institute were twice evaluated: concurrently with their development, and after the materials had been

used for a year. The second evaluation was conducted at a three-day work session attended by one-half of the original participants.

Institute participants self-evaluated their progress at the end of the workshop through two checklists: "What Do I Know About Initiating Occupational Home Economics Programs–" and "What Do I Know About Food Service Programs?" In addition, each participant made a personal commitment for 1966-67 and 1967-68 to work toward implementation of the programs in some way.

The report contains a description of the organization of the program, job descriptions and analysis of a food service supervisor, and a proposed curriculum and objectives for preparing of food service supervisors.

Volume II of this study focuses on an identical institute conducted in the area of child care services. It is available as ERIC # ED 026 524. (See bibliographic entries for further information.)

Topic Six: INDUSTRIAL ARTS EDUCATION

See Bibliography for Information on availability of complete studies

Recruiting Prospective Industrial Arts Teachers

A Pilot Program for Recruiting and Orienting High School Seniors as Prospective Industrial Arts Teachers. Rayford L. Harris. Virginia State College, Petersburg, Va. 1968.

This pilot program consisted of a four-week recruitment period in which students at local high schools were chosen as prospective industrial arts teachers, and a three-week institute at which the chosen students were oriented to the work of an industrial arts teacher. These two phases were followed by a 13-month evaluation period.

Forty-eight high school seniors selected to participate in the program were divided into experimental and control groups. The experimental group attended the institute at Virginia State College.

Participants were housed in school dormitories, fed in cafeterias, and had access to library and other campus facilities. The educational time schedule and activities (extracurricular) at the institute were comparable to those of a high school. Three field trips to industrial and government installations were included.

Topics considered at the institute were: (a) purposes and goals of industrial arts; (b) guidance and its place in industrial arts; (c) mathematics and some of its applications in industrial arts; (d) communication—"The Must" in industrial arts, and (e) support of industrial arts by state and national agencies. In addition, laboratory experiences were provided in general drawing, general metals, woods, plastics, and basic electricity-electronics.

Problems encountered during this project included that of recruiting eligible participants. Of students enrolled in industrial arts curriculums in high schools, most were not also enrolled in curriculums which would qualify them for admission to an accredited college. In addition, the four-week time period scheduled for recruiting was found not to be sufficient. The teaching responsibilities of the project director conflicted with the many duties he had in administering the institute. Despite these problems, the author of the report believed that the institute had accomplished its stated objectives.

Comparison of the experimental and control groups showed that a larger number of the experimental group entered college and majored in industrial arts and related fields than did those from the control group. It was felt that participants in the institutes had established clearer understanding of industrial arts education as a career, and it was recommended this type of program be continued.

Teaching Practices For Preventing Dropouts

Beliefs of Industrial Education Teachers Regarding Their Teaching Practices for Preventing Dropouts: An Evaluative Study of Teaching Practices Directed Specifically at Helping Industrial Education Teachers Work More Effectively To Prevent Dropouts. Stig Emil Ralstrom. Wayne State University, Department of Industrial Education, College of Education, Detroit, Mich. June 1969.

The purpose of this study was the identification, evaluation and indepth study of selected beliefs regarding teaching practices which are effective in preventing dropouts from industrial education programs. Specifically, the author attempted to determine "whether those industrial education teachers who qualified as contributing to school-team 'holding power' and the 'usual' industrial education teachers in inner and outer-city Detroit public senior high and vocational schools differed in their beliefs concerning teaching practices that affect the dropout."

The study consisted of the development of an instrument for identification and evaluation of teaching practices affecting dropouts, and the use of this instrument in comparing the beliefs of three groups of industrial education teachers. The teachers were divided into (a) a group of inner-city teachers identified as having "holding power," (b) a "usual" group of industrial education teachers from the inner-city, and (c) a "usual" group from the outer-city.

Seventy-eight teaching practices which can be utilized to prevent dropouts were identified, and 18 practices which contribute to the dropout problem were also identified. Differences were discovered in the attitudes of "holding power" inner-city teachers and "usual" inner- and outer-city teachers with regard to these practices. The holding-power teachers generally agreed that the positive teaching practices could be successfully implemented and that the negative practices could be overcome in industrial education classrooms in Detroit.

The researcher recommended that, in order to improve the holding power of the schools, a list of the 78 positive teaching practices along with information for their implementation and a list of the 18 negative practices with information for surmounting them should be made available to all teachers, teacher-educators, and administrators in industrial education.

Topic Seven: MANPOWER TRAINING

See Bibliography for Information on availability of complete studies

Area Manpower Institutes for Staff Development

The AMIDS Profile: A Program About People Who Care. U.S. Office of Education, Division of Manpower Development and Training, Washington, D.C. 1969.

Annual Report, 1969: Washington (Northeast) AMIDS. Robert L. McKee. The Washington Technical Institute. Washington, D.C. 1969.

Annual Report, 1968-1969: North Central AMIDS. Joseph V. Tuma. North Central AMIDS, Detroit, Michigan. June 30, 1969.

Area Manpower Instructor Development Site, Los Angeles, Annual Report, 1968-69. Mary Ellison, ed. Division of Vocational Education, University of California, Los Angeles. September 1969.

AMIDS (Area Manpower Institutes for Development of Staff) is "a nationwide network of specially designed technical assistance and staff development programs focused on understanding and teaching the disadvantaged, human resource development, and the learning and human needs of persons in manpower training and upgrading activities." AMIDS centers are located in Detroit, Los Angeles, Montgomery, Ala., Oklahoma City, Okla., and Washington, D.C.

The purpose of the projects is related to the effective preparation of Manpower project instructors and to the upgrading of the capabilities of those responsible for teaching, training, counseling, and rehabilitating the disadvantaged. Training is offered in methods of coping with and understanding the special needs and problems of the disadvantaged.

Some of the specific objectives of the AMIDS institutes were:

—To be able to identify the characteristics, problems, and needs of the disadvantaged in regard to cultural and sub-cultural values, economics, education, motivation, aspirations, inter- and intra-group relationships, and migratory and mobility patterns.

—To be able to analyze and employ appropriate teaching methods and techniques to assist maximum achievement of each trainee in reaching employable skills. Also, to be able to identify the use and limitations of selection and placement devices used in training program assignments.

—To be able to identify and develop curriculum content that employs techniques that encourage active student involvement in instruction, and to be able to appraise, evaluate and follow up in order to determine instructional effectiveness.

—To be able to identify and interpret manpower legislation and appropriate agency functions for the operation of programs that are designed for the population designated as disadvantaged.

A "person-centered approach" is the goal which runs throughout the AMIDS reports. As stated in the report of the Washington, D.C., AMIDS, "Seven Principles Guiding the Professional Relationship in Training" are:

1. Individualization—the recognition and understanding of each trainee's unique qualities.
2. Purposeful expression of feelings—the recognition of the trainee's need to express his feelings freely.
3. The controlled emotional involvement—the trainer's sensitivity to the trainee's feelings.
4. Acceptance—the trainer perceives and deals with the trainee as he really is.
5. The non-judgmental attitude—the training function excludes assigning guilt or innocence for causation of the problems or needs.
6. Trainee self-determination—the practical recognition of the right and need of trainees to freedom in making their own choices and decisions in the training process.
7. Confidentiality—the preservation of secret information concerning the trainee which is disclosed in the professional relationship.

The AMIDS programs consisted of several institutes, seminars and workshops held in the regions of the five AMIDS centers. The Washington (Northeast) AMIDS conducted 19 institutes and 17 special seminars from August 1968 to June 1969. The North Central (Detroit) AMIDS conducted 17 two-week seminars and 6 one-to-five day workshops from May 1968 to June 1969. The Los Angeles AMIDS conducted eight workshops at its main location and six workshops at satellite locations.

Topic Eight: TRADE AND TECHNICAL EDUCATION

See Bibliography for Information on availability of complete studies

Performance Tests of Instructor Competence

Performance Tests of Instructor Competence for Trade and Technical Education: Final Report: W. James Popham. University of California, Los Angeles. June 1968.

This study was concerned with the assumption that teachers would perform better than non-teachers in a test of teaching proficiency. In order to test the assumption, sets of objectives dealing with two areas of vocational instruction—electronics and auto mechanics—were developed.

These objectives were given to pairs of teachers and non-teachers, who were instructed to devise a sequence of instruction suitable for accomplishing the objectives in nine to ten hours of instruction. The instructors were also given resource materials which would assist them in devising an instructional plan, but they were permitted to use any instructional procedures they wished.

Pre-tests and post-tests were developed and administered to the students in classes selected for the program, in order to determine the results of the instruction. In addition, questionnaires were administered to students and teachers at the end of the instruction. Three classes were

given the Wonderlic Personnel Test in order to measure certain other variables.

Many problems were encountered during the project. The unit originally designed to be taught to the electronics trouble shooting classes had disappointing results in field trials and was replaced by a unit on Basic Power Supplies. Investigators found it difficult to locate a school district which would cooperate, and difficulties were also encountered in finding teachers and non-teachers to instruct the classes.

Analysis of test scores in both the auto mechanics and electronics courses revealed no significant difference between classes taught by teachers and non-teachers. Reasons stated for this outcome were that "teachers are not systematically trained to be changers of pupil behavior" and that "few teachers are consistently reinforced by their administrators, school system or community for being particularly skilled in modifying pupil behavior."

Concluding that a performance test measure of teacher effectiveness should be the *only* legitimate index of teaching proficiency, the author suggests that training and reinforcement be given teachers in methods of modifying student behavior. He feels that "performance test measures seem to be the most serviceable of those currently available to educators who require legitimate indices of teaching proficiency."

Cooperative Education-Industry Program

The Training and Technology Project Experimental Research Program for Vocational-Technical Teachers: Final Report. E. L. Merrill and Wendell H. Russell. Oak Ridge Associated Universities, Oak Ridge, Tenn., University of Tennessee, Knoxville, Tenn., and Union Carbide Corp., Nuclear Division, Oak Ridge, Tenn. December 1968.

This project consisted of preservice and inservice institutes for vocational-technical education teachers. They were designed to test the hypothesis that vocational education and industry, by working closely together, can develop and operate viable new programs to prepare and update teachers of vocational and technical subjects.

As stated in the report, the project objectives were:

1. Establish ways to bring vocational shop, laboratory and classroom instructors in selected industrial occupational areas as close as possible to current industrial practices and technology.
2. Develop vocational-technical teacher preparation programs in an industrially oriented atmosphere.
3. Stimulate and assist in establishing similar ongoing programs.

These teacher training programs were conducted within facilities of the U.S. Atomic Energy Commission Oak Ridge Y-12 Plant. Institutes for inservice training consisted of two nine-week sessions held in the summers of 1966 and 1967. The preservice institutes were conducted for two entire nine-month academic years, and provided one year of off-campus technical and professional studies toward a bachelor of science degree in industrial education. College credit was provided for both institutes.

Evaluation of the project consisted of surveys of participant attitudes and reactions during the institutes, follow-up questionnaires and visits, critical analysis by staff personnel, and observance by panels representing education, industry, and government.

The industry-education combination in teacher training was found to be particularly effective. Also, this cooperation helped each group to gain insight into the requirements and capabilities of the other. It was found that the updating of experienced vocational-technical teachers through an institute in an industrial setting surpassed traditional methods in both effectiveness and adaptability to individual needs.

Specific observations, made after experimentation in recruitment, scheduling and program content conducted during the two preservice cycles, were that:

1. Qualified persons in industry would be interested in teaching if they were aware of the possibility and if preparatory programs were made more convenient.
2. Retired military personnel are good prospective teachers.
3. The preservice institute in an industrial setting is an efficient means of training new vocational-technical teachers.

Similar programs established as a result of the Oak Ridge experiment are a six-week, summer inservice institute at Hampton, Va., made possible through cooperation of the National Aeronautics and Space Administration, the State Industrial Education Service and Old Dominion College, and another project combining the resources of the Georgia Department of Vocational Education, University of Georgia and Lockheed-Georgia Corp.

Effectiveness of Two Teaching Methods Compared

The Relative Effectiveness of Two Ways of Structuring and Presenting Preservice and Initial Inservice Vocational-Industrial Teacher Education Lessons. Frank C. Pratzner and Marjory Hanson. Minnesota Research Coordination Unit in Occupational Education, University of Minnesota, Minneapolis. April 1969.

The severe shortage of qualified vocational teachers in Minnesota resulted in the need for a program of minimum basic instruction in the rudiments of teaching recruits. A pilot project had developed a preservice vocational-industrial teacher education course which was recorded on video tape for use in television transmission. The purpose of the study described in this report was to compare the relative effectiveness of the video-taped course with that of an integrated lecture-discussion course. Both initial learning differences in the two methods and differences in student attitudes and opinions were measured.

A sample of 30 potential instructors were selected, with test results from 20 of them used in the final analysis. The sample was divided into two groups: one which would be given the course during the fall semester, and a second group which would be given it in the summer. Each semester the group was subdivided into an experimental and a control group, with the experimental group receiving the video-taped course and the control group receiving the lecture course. Each course contained 24 clock hours of classwork, with courses lasting 12 weeks.

A pre-test covering the content of the course was given, and results demonstrated that neither the control nor the experimental groups had any appreciable prior knowledge of the content of the course.

The course given the experimental groups consisted of materials developed by the Department of Industrial Education of the University of Minnesota. During each weekly meeting the instructor (a) briefly reviewed the prior lesson, answering relevant questions from the subjects, and introduced the film presentation; (b) showed the one-half hour film lesson; (c) used the accompanying materials and *Seminar Discussion Leader's Guide* to conduct a one-hour discussion on the content of the film lesson, and (d) administered a unit achievement test at the conclusion of the discussion. He reviewed the answers following the test.

The control group received a face-to-face lecture-discussion of the same essential content as the experimental group's films. Instructors were permitted to utilize any sequence, visuals and equipment which they would normally use.

In addition to the unit achievement tests and final course examination, an end-of-course opinionnaire was completed by all of the students. The instructors' impressions and reactions to the course and to their students' reactions were recorded in unit-by-unit narrative reports.

Subjects in the experimental film-discussion groups showed consistent and statistically superior performance on the criterion tests. However, these differences did not seem to be educationally important inasmuch as both methods of offering the course facilitated initial learning. The advantages of the film-discussion method were in the consistency of presentation, adaptability and flexibility in discussion, and economic and convenience advantages. It can be conducted at the convenience of the trainees, with varying class sizes.

It is recommended that the film-discussion package be improved and tried out on a much larger scale. The films need revision, including rewriting portions of the script, use of experienced actors as presenters, and improvement of the technical quality of the films. Unit tests and final examinations should be improved through rewriting to remove ambiguities and difficult vocabulary. Evaluation by several states is recommended.

Topic Nine: TEACHERS AND ADMINISTRATORS

See Bibliography for Information on availability of complete studies

Minnesota Preservice Teacher Training Course

An Introduction To Teaching Vocational Technical Education, a Preservice Teacher Training Course for Potential Vocational Teachers in Minnesota: Final Report. S. K. Wick and W. A. Kavanaugh. Minnesota State Department of Education, St. Paul. July 1967.

The purpose of this project was the organization, presentation and revision of a 12-lesson course of professional preservice education for potential vocational education teachers in Minnesota.

Twelve one-half hour video-taped training lessons were developed and televised on KCTA, the Minnesota educational TV station, two times each week from March 7, 1966, through May 23, 1966. Topics covered by units were: Teaching in Vocational-Technical Schools; Analyzing for Instruction; Organizing Course Components; Planning the Lesson; Teaching for Understanding; Teaching for Motor-Skill Development; Teaching With Instructional Aids; Developing Instructional Aids; Evaluating Instructional Outcomes; Developing Evaluative Materials; Managing Teaching-Learning Facilities, and Planning Teaching Careers.

Sixty trade competent persons interested in becoming vocational teachers observed the televised lessons, either in groups or individually at home. After each lesson a seminar was held at four different locations for the convenience of participants. Seminars consisted of the administration of a test to assess understanding of each lesson presentation and group discussion of major points of the presentation.

All sixty of the original participants completed the course; six of the group had already been hired for teaching at the time the report was written. The television tapes were transferred to 16 mm sound film in order to increase flexibility of use. In addition, kits for each unit have been prepared in the form of teaching guides containing an introduction to the unit, clarified objectives, lesson materials, the method of approach to be used, a resource appendix, a unit examination, answer sheets, test key, audio and video script, and an introduction-summary of the succeeding unit.

The report states that the project has been "rated by everyone associated with it as a truly successful venture."

Suggestions for further research in this plan include proposals to develop activity instruction sheets and programed instruction with home-study activity. There is also a research proposal to make a comparative analysis and evaluation of the learning efficiency and effectiveness and the relative costs of the three instructional methods: video tape and television transmission, regular teacher-trainer presentation with activity instruction sheets, and programed instruction with home-study activities.

Teacher Education Seminar

Second Annual National Vocational-Technical Teacher Education Seminar: Proceedings, Oct. 21-24, Chicago, Ill. James W. Hensel and Garry R. Bice. The Center for Vocational and Technical Education, Ohio State University, Columbus. January 1969.

Attended by 215 participants, this seminar was conducted to discuss and plan new and innovative programs in relation to (a) differentiated staffing (development, training and utilization of various levels of professional and semiprofessional staff in the total context of occupational teacher education), and (b) teaching the disadvantaged (preparation of vocational and technical teachers to work with students with special needs).

Major papers on each topic had been prepared earlier by task forces

of recognized leaders in each field, and they were distributed to seminar participants prior to the seminar.

The primary objectives of the seminar were to:

1. Develop an awareness and interest in the topics of differentiated staffing and preparing teachers for the disadvantaged.

2. Analyze the results of recent research, experimental programs and new developments as they relate to the seminar topics.

3. Explore the most effective and promising approaches to initiating an active program in each state which would implement activities explored during the seminar.

In addition to the task force papers, which are a part of this report, presentations made by three other persons are included. Don Davies, associate commissioner for Educational Personnel Development, U.S. Office of Education, spoke on "EPDA and Vocational Education." Robert E. Taylor, director, The Center for Vocational and Technical Education, offered comments on "Concerns, Concepts and Commitments" in vocational teacher education. Rupert Evans, dean, College of Education, University of Illinois, presented "A Challenge for Action."

State Directors' Seminar

Second National Leadership Development Seminar for State Directors of Vocational Education: Final Report. Darrell L. Ward and Aaron J. Miller. The Center for Vocational and Technical Education, The Ohio State University. November 1969.

Because of the need for improved statewide planning in vocational and technical education, the theme of this conference was "Master Planning for State Programs of Vocational Education." Attended by more than 100 state directors and other leaders in vocational education, the conference featured presentations of experts from private industry, government and state departments of education. The presentations were grouped into three sub-topics: "Master Planning in Business, Industry and Education," "Planning Within the Political Structure," and "Techniques and Tools in the Planning System Process."

Stated objectives of the seminar were:

1. To provide intensive examination of long-range master planning as it related to programing in vocational and technical education.

2. To provide a forum for the exchange of information concerning exemplary and innovative programs of the states.

3. To inform seminar participants of the latest and most relevant research development and training activities conducted by The Center for Vocational and Technical Education and other appropriate agencies.

4. To contribute to the professional development and self-improvement of state directors and their staffs.

Curtis W. Fritze, vice president-corporate planning, Control Data Corp., told of "Control Data's Interactive Planning System: Long-Range Planning in Business."

DeMarquis Wyatt, assistant administrator, Program Plans and Analysis, National Aeronautics and Space Administration, discussed the subject, "Long-Range Planning in Government."

Ewald B. Nyquist, commissioner of education, The University of the State of New York, presented "A Caul to Vision: Long-Range Planning in Education."

Lowell A. Burkett, executive director, American Vocational Association, presented "Manpower Development—Who Will Have the Responsibility." After discussing the status of manpower bills being considered by the Congress, Mr. Burkett stated that school administrators, chief state school officers and people who have a knowledge of what education should and could do for manpower development must take the responsibility for helping Congress interpret the consequences of the proposed legislation.

John A. Beaumont, consultant in vocational education, spoke on "Planning Within the Power Structure."

B. Dean Bowles, University of Wisconsin, outlined "Political Aspects of Planning."

Arthur M. Lee, chairman, Legislative Information Committee, American Vocational Education Research Association, outlined the role of "Congressional and Legislative Liaison" in master planning.

Joseph F. Malinski, Minnesota Department of Education, presented "Planning, Programing and Budgeting Systems."

Desmond L. Cook, Educational Program Management Center, The Ohio State University, described "Project Planning and Control Through PERT."

Donald P. Anderson, assistant dean, College of Education, The Ohio State University, presented "The Delphi Technique." As he described it, the technique, which is built on the strength of informed intuitive judgment, is intended to get expert opinion without bringing the experts together in a face-to-face confrontation. Contact is generally made with the experts through successive questionnaires and feedback.

Preparation of Personnel

Seminar for Preparation of Professional Personnel for Vocational-Technical Education: Final Report. Roy D. Dillon and James T. Horner. University of Nebraska, Lincoln. June 1969.

This report presents the proceedings of a four-day seminar held at the University of Nebraska in June 1968, and a summary of a one-year follow-up of relevant participation activities. Of 97 persons participating in the seminar, 43 were college administrative officers, 54 were state directors of vocational education, vocational - technical teacher educators, staff from the U.S. Office of Education and State Department of Education personnel.

The major purpose of the seminar was to enable selected college deans to consider and make recommendations concerning organizational and operational strategies for resolving critical vocational education personnel supply and demand problems, and to recommend ways of implementing legislation.

The first two-thirds of the seminar consisted of presentations by nationally recognized leaders on problems bearing on the seminar objectives. The final third of the seminar was devoted to task group workshop sessions in which participants and consultants developed strategies for organizing and operating preparation programs for vocational-technical educators. Guidelines, operational policy statements and model suggestions were presented to the seminar by these groups.

plain talk

George L. Brandon, Editor, Research Visibility

Synthesis and Priorities. Synthesis—the holy grail of research—is elusive. The hangups of establishing priorities are much more professional and political fun however disastrous to the youth and adults of educational programs. The current hangup of statesmanship versus veto, assuming that there is statesmanship to begin with, and an eight-month lag in providing educational opportunity, is a case in point. But *RV* continues the search for examples of synthesis and application of research and study results.

A good example of priority and synthesis treatment, especially with strong meaning for educational personnel development, showed up recently in *ERIC News Plus+*.[1] The newsletter gives eight priorities for information which have been established by the teacher-education clearinghouse. In connection with each priority, citations are given by number in reference to important ERIC references. The list of priorities in teacher education seems equally important to the preparation of educational personnel in all classifications.

The citations have been omitted by the *RV* editor. Interested readers should request a copy of *ERIC News Plus+* from the Clearinghouse. *RV* has numbered the priorities for reference and clarification purposes.

PRIORITIES

1. The means and methods by which preservice and inservice school personnel can secure structured practice in developing skills and insights. Examples are microteaching, simulation, internship, and techniques for improving individual school personnel by observing and analyzing teaching.

2. The analysis of the phenomenon of teaching-learning interaction to identify and define the component elements which may be the bases for the development of new methods of training effective teachers.

3. The manner in which school personnel can be developed to provide the best services possible, utilizing their unique competencies, knowledge, insights, and interests. This topic includes preparation for special roles in role-differentiated staffing arrangements.

4. The kinds of preparation programs which enable school personnel to service the special educational needs of all the people.

5. The means and methods by which school personnel are prepared to work with pre-school-age children in such settings as Head Start programs and nursery and kindergarten classes.

6. The ways in which lifelong teaching competencies can be developed, maintained, and extended through the collaboration of collegiate institutions, local schools, governmental agencies, private enterprises, other organizations, and individuals.

7. The ways in which supportive or inhibitive factors are related to the incidence of innovative and exemplary practices in the preparation and continuing development of school personnel.

8. The selection, preparation and development of teacher-educators (collegiate and school level.)

Sharpening Up Priorities. These priorities are generally applicable to vocational and technical personnel preparation, but interpretation is needed. Moreso, if current trends continue it is obvious that the preparation of professional personnel and its auxiliaries is not the sole task of colleges and universities. The basic truth and challenge of the matter suggest that every professional in the business should take very seriously his influence and participation in preparing teachers and other personnel in his and her immediate realm of activity.

What, then, is the crux or core of each priority statement as applied to vocational and technical education? With deference to *ERIC News Plus+*, *RV* reframes the priorities in question form:

1. If skills in teaching and other forms of professional leadership can be taught through structured practice and experiences, who shall take the initiative in this provision? What methods are most relevant and provocative?

2. Basically, what occurs in teaching and learning? To what extent does this process and outcome have implications for teaching, supervision, administration, coordination and specialized staff operation, and the development of leadership in each? What are the implications for the *preparation* of these personnel and the auxiliary staff which supports them?

3. If educational services include provisions other than instruction and guidance, specifically what are they, to what extent are they acceptable in the service concept of the schools, and in what ways can vocational personnel be developed to provide and perform them? (Note: These "other" services are the hallmarks of current, pending *manpower* legislation. The challenge and question is very clear: Will the schools [including vocational and technical education] assume this *total* role, or is this the task of another agency?)

4. What are "special needs" of all the people, and to what extent do special needs influence the preparation of vocational personnel? Do we need a corps of *special* personnel to meet *special* needs?

5. In what ways can vocational personnel be prepared to understand and work effectively at *multi-levels* (junior and senior high school, post secondary, collegiate) and in *multi-agency* programs in the various sectors in which vocational and technical education is and will be given in the future?

6. If the concept of continuing education and development is meaningful to vocational personnel, what coalition or consortium of forces and agencies should make the development opportunities and programs available and effective?

7. What are the new (innovative and exemplary) practices in preparation and continuing development of vocational personnel? What conditions tend to support or inhibit promising practices and experimentation in personnel development?

8. To what extent are the foregoing priorities (or variations of them) important in the selection, preparation and development of teachers for their total role in leadership and personnel development?

Priority of Professionalism—A Closing Note. For many reasons, historical and otherwise, our profession is a complacent one. Optimistically and despite the growing pains which are ahead, there are trends and issues in the profession which are much more than straws in the wind. These, too, should be taught in teacher education; otherwise, to what avail are

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[1] Clearinghouse on Teacher Education. ERIC NEWS PLUS+. Washington: American Association of Colleges for Teacher Education, 1 Dupont Circle, N.W., 20036. Volume 2, Number 1, January 1970.

masters of subject matter and methodology if their professional destiny rides on the whims of politics and public opinion? The control of education and the control of the profession are two distinct issues despite our professional behavior since colonial times to the contrary. If the profession of medicine showed similar status and progress, we should, indeed, feel more than a little uneasy.

A first serious suggestion is to grow up politically—shed the Victorian notion that "politics" is an unsavory word, or coin another term which better describes the educational arena.

Secondly, and not far removed from the power of politics, confront the issue of *solidarity* in vocational education and the importance of people in it. Wisdom and astuteness suggest that the public interest and welfare will not be served by any single, specialized area of vocational education and practical arts, regardless of our personal obsession with its merits and belief that it is the panacea of all mankind.

Even an impartial observer of the political scene with no axes to grind must have an empty feeling of citizenship as he watches time run out and the wheel-spinning statesmanship which seems oblivious to human needs and welfare. But time does run out for Congress and "Plain Talk." Be of good cheer!

"The trouble with Congress," H.L. Mencken once said, "is that it *does* represent the American people." While most of us may sometimes share Mencken's exasperation with Congress and the democratic process in general, let us hope that all our institutions continue to be infected with this democratic malady. Judging from the results since Congress first sat in 1789, neither the people of the United States nor their representatives have done such a bad job.

"Nor, I am convinced, will they do a bad job now that they have forced their way into the throne room of public education. We boardmen-kings and administrator-kings, having been forced to abdicate our autocratic rule, must now join the rest of our fellow-citizens in the patient pursuit of the possible.

"May the institution of our profession be infected with this democratic malady."[2]

[2] Nolan Estes, "The New Political Tasks and How Boards Must Master Them." *The American School Board Journal*. February 1970, Vol. 157, No. 8, p. 18.

RV Publishes Bound Volume for 1969-70

The third edition of Research Visibility may be ordered now from AVA at the price of $3.25 a copy, including postage. It includes the nine monthly sections published during the present school year.

Bound volumes of RV are still available for the 1967-68 and 1968-69 school years. All three volumes may be purchased, while the supply lasts, at the special price of $6 for the set. Order promptly to assure availability of complete sets.

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CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC*, a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

Research Visibility is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The *Research Visibility* report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

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As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.

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